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De recta sanguinis missione :

O R,

New and Exact Observations

O F

F E V E R S.

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De recta sanguinis missione

New and Rare Observations

OF

F E V E R S

Simon Fraser 1712
~~Simon Fraser~~
De recta sanguinis missione :

O R,

New and Exact Observations

O F

F E V E R S.

IN WHICH

Letting of Blood is shew'd to be the true and solid *Basis* of their Cure, as well as of almost all other Acute Diseases ;

PROV'D

By Histories of Cures, and Demonstrated from the general History of Physick, Ancient and Modern :

A N D

A New Canon is produc'd for determining with much greater Certainty, the Just and Exact Quantities of Blood which ought to be taken in these Distempers, from every particular Person.

By J. WHITE, M.D.

London, Printed for D. Brown at the Black-Swan without Temple-Bar, A. Bell at the Cross Keys and Bible in Cornhill, and W. Innys at the Prince's Arms in St. Paul's Church-yard, 1712.

De verba Jurgensius missive :

New and Rare Old English

FEVER

Haister Channing, M.D.

14083.

Mar. 18, 1852

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B*T what means Modern Physick has got the Advantage of the Ancient, and consequently is more valuable.* Pag. 2.

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good proof of this Assertion.* Pag. 17.

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The Contents of the Chapters.

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T H E

T H E

INTRODUCTION.

Seeing the far greater Part of our Knowledge of things in this World being Moral or Physical, arriveth at no greater degree of Certainty than *à posteriori*, which almost in all the other Learned Arts and Faculties, is esteem'd sufficient for Human Life, and the Conservation of Society; there can be no Objection against the Medical Art on this account more than any of the rest.

Since ever the Science came to be dogmatical, as its real Worth consists in its *Certainty*, so this Excellency has been easily distinguished in its being discover'd and ascertain'd, not by some particular Men only, but by *Emperors, Kings, Princes*, and other Illustrious Persons, as well as People of Merit of all Ranks and in all Ages. And as the whole Difficulty of this lies in making a full Collection of Effects, and in duly coupling them together, in order to deduce from them the Causes of Distempers; so the Reason is obvious why the *Moderns* in many Diseases reject the Methods of Cure us'd by the *Antients*, and cure several others which are new, and were unknown to *them*, with as great Certainty as *they* cur'd any at all.

B

By

By means of the Perfection of *Anatomy*, the *Animal Oeconomy* explain'd by the genuine *Laws* of the *Circulation* of the *Blood*, and our great Improvements in *Experimental Philosophy*, we have been able to collect more proper *Effects* than the *Antients* cou'd do, for attaining the Knowledge of the *Causes* of *Distempers* afflicting *Human Bodies*.

All the most admirable *Phænomena* of *Nature* throughout the *Universe*, are perform'd by *Weight* and *Measure*; and how the certain *Proportion* and *Quantity* of *Chyle* made of our daily *Food*, which is unprofitable for *Nutrition*, is carried out of our *Bodies* in an healthful *Condition* by *Perspiration*, the *Immortal Sanctorius* has put beyond *Contradiction*.

'Twas for this Reason, tho' *Paracelsus*, and afterwards *Van Helmont*, the two great *Luminaries* of their *Time* for *Learning* (particularly *Chymistry*, that part of *Experimental Philosophy*) did each of them gain so many *Followers*, that they became *Sects* of *Physicians* called after *their Names*, yet in a small time they came all again to nothing.

For those two *Authors* by a superiour *Genius*, and an indefatigable *Application* to that part of *Physick*, through their perfect Knowledge of the *Antient Art*, saw clearly where its *Defects* lay, and by its *Assistance* they went farther, and discover'd a few *Remedies*, and but a very few, whereby they cured some *Diseases* more effectually than the *Antients*.

This being evident to every one, tho' the other perhaps was not taken notice of by any, they began to meditate how to entail this *Fame* and *Profit* to *their Families* and *Posterity*.

Had *they* explain'd *their* new *Medicines* by the antient *Physick*, and continu'd to apply *them* in the Cure of *Diseases*, according to the *Indications* taken from the Art, whose Precepts, as the Learned *Bagliwi* has well prov'd, are perpetual; 'twas so plain, that all the ingenious Men of the Faculty wou'd have commenc'd *Masters* of *their* Improvements, whereby their Honour, if not their Profit in their own Days, at least in *their* Childrens, must have been shar'd with *others*.

To compass their Design (as it seems to me) these two *Authors* thought nothing so fit to establish *themselves*, as to contradict the *Antients* in the greatest *Article* of the whole Art, which *they* had establish'd by all the Means of Certainty, that faithful *History*, *Experience*, and the *Discoveries* of the several *Ages* to that time, was capable of. Thus *they* affirm'd *Blood-letting* to be injurious in *those very Cases*, where it was, and ever will be, most beneficial. As for instance, in the Cure of the *Putrid-Synochal* and *Burning-Fevers*, because forsooth *they* cur'd the *Ephemeral* and *Synochal* Fevers, but not *Putrid*, ordinarily by *their* pretended *Arcana*, or secret Medicines; yea accidentally too, some of the *Putrid*.

This is no more than what the *Antients* had done; but it must be thought the administering the new and secret Medicines, was the thing that did it; for not only the Multitude of *Mankind*, but of the *Faculty* likewise, being struck with Admiration (because they were industriously kept in Ignorance) at the sight of some other *Diseases* more effectually cur'd than by the *Antient Medicaments*, were so suspended from the Use of their Reason, that *they* cou'd not or durst not examine so obvious a *thing* as this, because

their Reputation was not on an equal footing.

Then they wrap'd up the Manner of their new Medicines Operation in *Enigma's* (*Alkabeſt*, *Gas*, *Blas*, *Archeus*, were ſome of their Terms of Art) ſo that they could apply it to the Medical Philoſophy juſt as *they* thought it convenient for *their* Purpoſe ; for the Interpretation was in their Power alone, juſt as the Chymical Preparation called *Ruſſel's Powder* has been made uſe of in our Days.

It operates on the ſame Perſon by *Vomit*, ſometimes by *Stool*, and ſometimes by *Sweat*.

While this *Medicine* was a Secret, and in the hands of a ſkilful Phyſician (who knew it) he muſt alſo certainly know, that in a *Diſtemper* to be cur'd by theſe *Evacuations* alone, it might take place as well as if he had given three differing Remedies, *Vomits*, *Sweats*, and *Purges*. But ſtill being a Secret, 'twas in his power to interpret enigmatically the Manner of its Operation. For inſtance, ſuppoſe it given to *one* in an *Ephemeral Fever*, *Him* it vomited, and *He* was cur'd. Suppoſe again, 'twas given to another of the ſame *Diſtemper*, and in the ſame Family, *Him* it vomited likewiſe ; but the Diſeaſe not yet ceaſing, a ſecond Doſe is given of the ſame *Medicine*, and it ſweated or purged him only, and then in a competent Time the Fever goes off according to Expectation. So to another Patient of the ſame *Diſtemper*, but ſomewhat greater, this *Medicine* given a third time neither vomits nor purgeth, but ſweats him.

Thus the Phyſician might convince the People of that Family and the next two neighbouring ones, who commonly come to viſit one another in Sickneſs, and all the *Relations* of the *Patient's*,
that

that the Medicine was the *Panacea* of Nature, which by great Study and Experience he had found out; of whose Efficacy and Manner of its friendly Operation (appealing to *them*) *they* themselves were all Judges, being Eye-witnesses that it accommodated it self to *Nature's* own Method of curing the *Distemper*.

For in one, Nature was inclin'd to proscribe the Feverish Matter by Vomiting, and the Remedy perfected this Work. In the *second* Nature was inclin'd to shake off the Fever by *Stool*, and the *Medicine* accommodated it self to *Nature's* own Method. And in the *third* Patient Nature likewise was dispos'd to thrust off the Fever by *Sweat*, and the *Panacea* constantly observing all the critical Motions of Nature, immediately suited it self to this way of operating.

I am far from affirming, that the Gentleman who was the Author of this *Medicine* ever did so, who as I have been inform'd was the Learned Dr. *Needham*. Only for example sake I say, 'twas fully in his power to have impos'd on the People so. Let us suppose they were *Mercers*, *Linnen-drappers*, and *Woollen-drappers*, these three or four Families were fully capable to impose on as many Families of the *Gentry* their Customers and Friends, which with the Doctor's own Reputation as a Member of the College, and likewise by their conversing with him, finding him otherwise to be a Man of Sense, cou'd no more miscarry than in the first Experiment. For a Gentleman, when *he* sees some Cures done, as *he* is no Judge of a Physician farther than by Fame, at best he can but judge of him by his other Qualifications, or by some visible Effects, as the Cures, which we suppose, cannot be blam'd for not

knowing a thing that is none of his Business.

Tho' I'm well satisfy'd when some others had the secret Medicine (some of whom I knew) after the Doctor, they imposed thus even on the generality of the *Faculty* it self by this false Reasoning. I have indeed known some *Diarrhea's* cur'd by *Russel's Powder*, which was us'd as I have said, and in others again it did great Mischief. This *Age* was so deluded with the Notion of *Specificks*, deriv'd principally here in *England* from the Authority of the Learned and Honourable Mr. *Boyle*, that to this day it prevails among a great many.

The *State* of *Physick* in these two Authors time gave 'em a better Opportunity of imposing on the *Faculty* and the *World*; for they knew they were Masters of all the Knowledge the *Science* afforded, and how much they had enlarg'd it by their own Labours. It may be also the Desire of Praise, thinking to eternize *their* Names, because none had so apparently augmented the *Stock* after *Galen* to their own time in so many *Ages*, which might so blind *them* with Self-love, as to believe *they* had really reach'd the *Non ultra* of the Art.

Altho' the *Circulation* of the *Blood*, and the Doctrine of the *Perspiration*, were well known before *Helmont's* flourishing Years, who died only in the Year 1664. he might therefore have made far nobler *Discoveries* thro' the Advantage of his *Genius* and his excellent Learning, upon these *Principles*, had he but equally cultivated them, as he did those of *Chymistry*, which to me it is probable he would have done, if he had thought it would have brought him as much Profit as his *enigmatical Physick* did.

Indeed,

Indeed, the *lacteal* Vessels, and *thoracic* Duct were soon after found out, and the new *Medical Philosophy* has since that time chiefly been calculated, upon those Principles most universally, and partly from many new Experiments in *Experimental Philosophy*.

As for the Miscarriages those *Physicians* had in the Cure of *Synochal-putrid* and *Burning-Fevers*, and other Distempers which necessarily requir'd Blood-letting, (condemn'd by *them*) the Cure of some few accidentally, with others, in which *they* did not differ from the *Antients* in their Method, but with the pretended Use of one or two new Medicines, atton'd for that; and who dar'd be so bold as to call *them* to an Account?

It is true, *Sanctorius* made his *Calculations* in *Italy*, which must differ something from the Northern and colder Climates, as in *Britain*, &c. as the very Learned Dr. *Cole*, in his Treatise of the *Epilepsy*, *Cap. de Perspiratione*, very well proves; but this can make no very great Difference, seeing the Natives in *England* and *Norway* out-live those in *Italy*, *Spain* and *Portugal*. There are about 100 Years past, since the Perspiration was found out, and determin'd as to its true Quantity for the Natives of *Italy*.

Had this been done in like manner by the Professors of Practice in all our Universities of Great Britain, France, Germany and Holland, (where the Medical Science is well taught) I don't see what could almost have hindred *Physick* to have reach'd the last Perfection it is capable of. For if we know certainly what is the Quantity of a Man's daily Perspiration, as he enjoys a State of Health, yet suppose he was not weigh'd a Week or a Fortnight before, and he falls into a *Synochal putrid* Fever,

Fever, we may depend on the last Experiment for the Basis of our Calculation, and reckon all he weighs over *that* to be the *Perspirabile retentum*, the true *Bounds* and determin'd Quantity of the Mass of Blood, which must be subtracted from some Emissary by *Venesection*. Yet in this Case we must suppose likewise the same Order of the *Non-Naturals* as formerly, otherwise there may be a Difference in a Fortnights Time. For Example, If a Man does not eat above two Thirds of what he's accusom'd to, and of coarser Victuals, at this *Time*, tho' he should have a Fever, the *Plethora* cannot augment but proportionably to his Feeding and Nutrition.

Having by a sure *Rule* reduc'd the Mass of Blood to near its *natural-usual* Quantity, we might with an equal Certainty depend on the Use of our other *antifebrilitick* Remedies, and expect many Fevers would be dismiss'd by a true *Crisis*, which at the Rate we practise now cannot; but either the *Patient* (being suffocated with his Blood) must die in the first Days of his *Distemper*, or of Necessity a double Number of Days must be substituted, wherein a Fever of this Kind may be safely determin'd, and so in a most lingering and languid State he must run the Risk of throwing off this Load of *febrile* Matter, when this Task may be perform'd while the Blood has double the Number of Spirits to assist it. Thus the Fever must spin it self out to the 18th, 20th, 24th, 25th, &c. Days, and so end with a *Diarrhea*, with which Symptom few ever escape; or must terminate in an intermitting Fever; or in such a Manner, that we may expect two or three *Relapses* of a Fever with Exacerbation and Remission, and all this because there was such a Load of *febrile* Matter at first, (which should

should have been evacuated *then*) within the circulatory Bounds, that the Blood-Vessels, and the Muscles, &c. cou'd never perform their necessary Contractions, for rarifying and comminuting the whole Mass, that so the too bulky morbid *Moleculæ* might have been broken small enough, to pass in due Time through their proper *Percolatories*, according to the *Genius* of the Fever, as I have said at length in the following Treatise.

For without laying the *Basis* of such Cures right, all the *Superstructure* must be necessarily precarious and wrong. So that our *Alexipharma*c and *Cardiac Boluses* prescrib'd every 4th Hour, (which is by far too much when they come to be properly us'd) cannot attain their End, but must on the contrary extremely augment the Cohesion of the Blood, from whence, at the Beginning, *it* being replete with Spirits, a furious, violent Heat must as necessarily ensue, and an Inflammation of some of the *Viscera*, *Pleura*, or of the *Meninges* and Vessels within the Substance of the Brain, whence it is no wonder, that People so treated should so often have either a *Stupor*, *Coma*, *Phrenitis*, *Paraphrenitis*, or *Delirium*.

Taking therefore this *Indication* right, we should be able to cure almost all *acute Distempers*, such as *Pleurisies*, *Peripneumonia's*, *Quinsies*, *Apoplexies*, and some *Epilepsies*, &c. with the same Degree of Certainty as Fevers.

It were to be wish'd our *Physicians* in our *Universities* would settle this Matter. *They* are themselves provided for honourably, and the *Scholars* and *Masters* are obliged to eat, exercise and sleep, at regular Hours; and besides, their Meat and Drink is in a manner weigh'd and measur'd to *Them*, which would make the Experiments more easy.

But

But for other Physicians (a few only excepted) they may be suppos'd liable to the same Inconveniencies as the *Patients*, the *res angusta domi*, or Necessities at home make *them* think on the expeditious Supplies of that, which admits of no Exception.

Nevertheless there are some surely of all sorts enough to determine this most useful and necessary Piece of Knowledge that is in the World for the Cure of *acute* Diseases; and when we cure *them* well, we shall have some surer *Effects* from whence to deduce the *Causes* of *Chronical*, as well as their *Cures*. For the Skill of the *Physician* is infinitely greater, or at least ought to be, in the Cure of the *first*, because in the *latter* he has room for Experience of more Methods of Cure than *one*, which falls neither to his Choice, nor the *Patient's* good Luck in the *other*.

*Sed sævior ignibus Aetnae
Fervens amor ardet habendi.
Heu! primus quis fuit ille,
Qui auri pondera tecti,
Gemmaſq; latere volenteis,
Pretioſa pericula, fodit?
O utinam modò noſtra redirent
In mores tempora priſcos!*

Boeth. de conf. Phil.

It is not for want of *Remedies* that we don't cure well, it is rather because we have too many; and as soon as we find any certain Effect in *them*, immediately there breaks forth an Itch of being thought learned, (according to the *Notion* that prevails with far the greatest part of the present Age, that nothing is *secundum Artem*, but
what

what is a large Composition) and so we join and compound half a Dozen Compositions with the simple *Remedy*, and put the *Cure* upon an Experiment, that before had all the necessary Degree of Certainty; but this is (with Submission) false Learning.

Among the unnecessary Medicines I shall instance what I spoke of before under the Head of *Secret-Medicines*, the *Russel-Powder*. But here I must explain my self so as to own, that I don't condemn any Physician for making a Secret of any noble *Remedy*, with which he enricheth the Stock of Physick, so as he can make it appear before equal and competent Judges, that in certain Distempers it is far more excellent than any other of our *Materia Medica*, when such and such *Indications* are present. There is very good Reason that he should reap the (*pretium sui olei, &c.*) Fruit of his laborious Studies, all his own Life at least, for the Good of his Family, Relations, or Posterity. But there is but little of this kind.

Russel's Powder then, so admirable a Medicine while it was a Secret, is only a simple Preparation of Antimony, whose more constant Effect is Vomiting, for when it purgeth or sweats, it must be by repeated Doses given to the same Patient, and the Distemper must be such too, where there is no great Stock of the *Materia Morbifica*, else it will vomit more than once given, or twice either. However as its *Stimulus* is but small as a Vomit, and its other Effects as a Purgative uncertain, and much less as Sudorifick, and that it must be given in four or five times a greater Dose than another much better Emetick, and an Antimonial one too, viz. the
Tart.

Tart. Emet. when we demand this Operation to be perform'd strongly, the last is infinitely better ; and if we want it for a weak Patient, such a Weight of Metalline Substance as is necessary of the first, must be hurtful to the Stomach and Intestines, on the Account that it will lodge long among their Plicatures ; (which I can affirm from Experience) but still more, by how much the *Season* happeneth to be cold, through Frost, Rain or Humidity, because of its own intense Coldness. And altho' I said that a skilful Physician might cure such Fevers with this Medicine, I mean if the Patient be strong, and his Strength still subsisting ; yet I believe whenever any of these mentioned Fevers indicate those *Effects*, they can be obtain'd by much more safe and effectual Medicines, which are not needful to be mention'd, because so well known. Therefore we see this Medicine, a *Panacea* of Nature while 'twas a Secret to draw in Money, is now, when subjected to the perpetual Rules of Physick, in Contempt with the Learned, and justly obsolete.

Altho' I could write out a large Invoice of unnecessary Medicines, to avoid enlarging my *Introduction*, which is like to be something tedious by proving my Canon, and answering Objections, I shall only mention two more, and those, one a *Chymical*, and t'other a *Galenical* Medicine, *viz.* Dr. Goddard's Drops, and *Mummy*, because we are not sure but the human Scull they are made of, may be the Scull of a pocky Person, and the Bones are the very Seat and *Nidus* of the Pox, and especially those of the Scull ; which if so, 'tis in vain to alledge, that lying under the Earth would destroy the
fix'd

fix'd pocky Particles, and that the Volatile yet should remain. Besides, well rectify'd Spirit of Hartshorn (freed of its *Empyreuma*) will do every thing that is pretended to be done with this solemn Medicine, and so will the *Guttæ Regales* or the *Seriacum*. More may be said against *Mummy*, for it may be leprous, pocky, scabby, scrophulous, which have all their Seats in the Skin and external Parts of the Body. Those filthy, nauseous Medicines ought justly to be expell'd the *Materia Medica*.

I don't doubt but *Paracelsus* and *Helmont* had the same Reasons to make every thing a Secret. They had a fine World then to make a plentiful Harvest of; for as all the *Ancients* had describ'd *Opium* to be cold, narcotick, and injurious to the Nerves, these Gentlemen had (in this Particular) no more to do than to make a Tincture only with Spring-water, (for few of the Faculty ventur'd to prescribe it) or some such *Menstruum*, and Ingredients as make our *Laudanum Sydenhamij*, and then bestow upon it the Name of an universal *Quinta Essentia Naturæ*, which indeed skilfully apply'd, as they could do, could not but produce stupendious Effects among the highest Ranks of Men at that time. Nay, 'twas in their Power to have call'd the *Sal. Absinth. Cardui*, *Puleg. roris Mariæ*, and most of the Carminative and Aromatick Plants by the Name of *Essences*. For every Preparation of Chymistry was a wonder then, 'twas all wonder and divine; and the Knowledge of that alone made a Man a Physician. Such an Infatuation possess'd People then, that even to this Day the Chymical Family and some vulgar Physicians think they prescribe well, when there is occasion
for

for the use of these Plants, if they order only the Salts of them, affirming their Effects to be deriv'd from their Salt; but don't consider, that it is the Volatile chiefly, and hardly any thing of the fix'd Salt, that produces the Effects we see of *Wormwood*, *Rose-mary*, *Gentian*, *Mint*, *Carduus*, *Baum*, *Penny-Royal*, *Burnet*, *Centaury*, &c. and when they have been at the Pains to make the fix'd Salts, they don't partake or preserve the Quality of the Plant, most of 'em being good for nothing, all of them producing much the same sensible Effects, as well as the fix'd Salts of all other Plants. This may be the reason that we see half a Dozen volatile Salts in one Composition perhaps, and as many of the fix'd in another.

I have seen a young Physician, who gets 500 l. Sterling a Year by his Practice, prescribe for a Vomit this: *℞ Rad. Ipopecuan* ℥j, *vel gr. xv. Tart. Emet. gr. iv. vel iij*, and now and then add some Grains of *Gamboge*, and thought he prescrib'd learnedly. Or *Turb. Mineral.* and *Tart. Emet.* and *Ipopecuan* together. And if he met with such a Prescription in an *ex tempore* Dispensatory, said to be truly design'd for the use of young Physicians, he would mark that to chuse, being a learned Composition according to his way of thinking. For Example: *℞ Lapid. Goan. Contrayerv. Gascon. Rad. Serpent. Virg. ana. gr. v. m. f. s. A. Pulv. antifeb.*

The Author gives this Rationale of it: *Febribus malignis pestilentialibusq; adversatur. Sed potissimum quod fermentationem de novo in corpore excitat, ad hujusmodi verò fermentationem inducendam, necessario expetuntur particulae heterogeneae sanguini non miscibiles, & quo major est numerus Ingredientium,*

tium, eo major identidem erit heterogeneitas, & consequenter fermentatio. Ideoq; præstantissima alexipharmaca (uti Theriaca, &c.) ex ingenti rerum mirè discrepantium farragine comparantur.

That Heterogeneousness of Particles does produce Fermentation, is not this the same as if he had said, it is done by the occult Quality of the Ingredients? To assert how much the Number of Ingredients is greater in a compounded Medicine, so much the greater Fermentation it will cause in our Blood; then if we jumble together blindfold such a Mass, as the precious hard Stones and Peble-Stones, Pearls and Wilks, China-Ware and Tobacco-stoppers, *Terra Lemnia* and *English Earth*, Bricks and Slates, *Welsh Coal* and *Scots Coal*, Human Excrement and Goose Dung, (especially because the last four have a Sulphur, and there is some manifest Salt in the two last) we may affirm that we shall have a good Alexipharmack Medicine; nay, if there was still more of such kind of Trash, it would be so much the better and more useful Remedy.

This is but indifferent Doctrine *in gratiam Tyronum Medicorum*; for if Number will promote the Ebullition of the Blood, they'll very readily obey the Precept to save Study. Therefore concludes the Author, This is the Reason why the most excellent Alexipharmacks, such as *Andromachus's Theriack*, are made up of an huge hodge-podge of things wonderfully differing.

This was well said, wonderfully differing from some People indeed, but wonderfully agreeing with others; for the Ingredients of the * *Theriaca* are admirably well class'd, and as

* Vide *Præleſt. Chymic. Dris Friend de fermentatione.*

well dispens'd, for all of them are saturated with Volatile Salts or Oils, except two or three *Ab-sorbents*, such as the *Chalcitis* and *Terra Lemnia*, which bear a mighty small Proportion to the rest.

Without doubt our *Pulv. è Chel. Comp.* is one of the best, if not the best, Antifebricitick-absorbent Composition to be found in any Dispensatory of the World, and yet for Adult Persons at least, as far as ever I could observe, it is not so safe nor effectual in Fevers, without the Help of *Sal. Prunel.* or the Flowers of the Mild Bitters, as *Camomile*, *Centaury*, *Hypericon*, *Gentian*, or some Aromatick Plant, as the *Rad. Serp. Virg.* *Contrayerv.* &c. But why should the *Gua-stone* be added in equal Quantity, which has the same Ingredients, and four or five hard Stones more, (which have thundering Names for vulgar Ears, precious Stones forsooth) from which we have not hitherto found a *Menstruum* to draw an useful *Tincture*? Is not this to make a good Remedy uncertain? And why should the same Quantity the third time, of much the very same Ingredients be added, under the Name of *Magisteries*? When Crabs-Claws, Coral, Amber, Hartshorn, &c. are prepar'd with any Salt or Acid Spirit; can any Man, who will give himself leave to use his Senses, think, that those things being reduc'd to impalpable Powders, and being carefully mix'd with such *Menstruums*, do any more yield their simple Qualities? So far from it, that they associate with the Saline Particles of the *Menstruum*, and become really a *Quid-neutrum*, or a Body different from both their Qualities while they are by themselves, or at least the Ballance lies on the side of the Salt ;
only

only the Coral does scarce admit of any because we can make no kind of *Tincture* from it ; and yet some Physicians are as fond of it as of a *Quinta Essentia*.

Altho' I have said so much on this Head, I profess it is without any personal Design against the Authors ; (some of whom I never saw, nor had occasion of having any Acquaintance with) for I am so far from condemning what is good and imitable in this kind, (for every Man living has his Slips and Failures) that for the publick Good I shall always take it well to be inform'd of my own Mistakes, in order to do better.

I have known some when they thought a Mercurial Vomit proper, prescribe *Turb. Miner. Mercur. Vitæ, & Arcan. Corallin.* together ; or this, *Mercur. Virid. præcip. Turb. Miner. & Mercur. dulcis* ; and these they imagin'd learn'd Prescriptions. Others again, and not a few, I have known, because a great number of the *antifebricitick* Ingredients are crowded into the *Aqua Epidemica*, and Dr. Stephens's Waters, thought therefore they prescribe well, when they make one Third of their *Fuleps* of these Spirits, nay sometimes about one Half, not considering they are giving Brandy to their Patients in Fevers, at the Rate of four or five Ounces a Day, for several Days successively, under the specious Name of *Cordials*. Which Quantity doth produce a Dryness of the Mouth and Stomach, with Inflammatory Heat, in a strong healthful Person, in one Day's Use only ; altho' the *well Person's* Stomach has some Remains of that viscous Mass which is made from solid Food, and the Blood-Vessels are saturated with this Chyle to defend their Coats, from that valid, strong Contact,

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which

which these burning Spirits must necessarily make on the *sick Man*, coming to be nakedly and immediately apply'd without this Fence. How mischievous then must it be, where these Symptoms are already existing?

All the best modern Physicians, as well as the ancient, agree, that Venesection is the necessary Basis of Cure in acute Diseases; and yet none of them give a Canon, whereby we may determine the right Quantity that is demanded from every Patient. Either this must be decided by Diversity of Temperaments or Constitutions, or by History of Cures.

Some have thought fit even to this Day (otherwise learned Men) to say, Such a Man being of a bilious Constitution, must be bled more than another Man. The very learned Dr. *Pitcairn* has justly rejected one of the four Constitutions, deliver'd by the Ancients, *viz.* Blood, being no Humour, but the whole circulating Mass, and I will venture to reject the other three. First, the *Atra-bile* is no where found by Anatomists; and as for the other two, suppose we have ten Men before us, all pretty near of an Age, Bulk and Strength, who eat, drink, and perform all animal Functions with as near a Resemblance; is it enough to say, This Man is of a bilious Constitution, because his Hair is red or fair; and the other Man is of a phlegmatick Constitution, because his Hair is black or dark colour'd, and it may be not naturally curl'd? Can any body be so blind as to think this a sufficient Ground to bleed the Man with the red Hair much more than the Man with the black; or that the Man with the black Hair should be bled less? This is begging the Question.

I know the most ingenious and learned Author just now cited, has endeavour'd to give his Opinion in Favour of the Ancients, explaining it thus, *viz. That a bilious Constitution is where the Bile is secreted in the Liver, in a greater Quantity to the rest of the Secretions, than is usual for most Men of that Climate, by a certain Force of Circulation.*

And so he has said of the pituitous Constitution, *viz. Where the Proportion of Spittle secreted is greater to the rest of the Secretions, than is usual for most Men of that Climate.* But still this is *gratis dictum*; for I would fain know, in a Regiment of young lusty Fellows, suppose we find an hundred agreeing in all the Qualities which we found in the other ten, how, and by what Rule, any one can tell, *this or that Man* of the hundred is of a bilious Constitution or phlegmatick?

When the Secretion of *Bile, Spittle*, or any other Humour, is in greater Proportion to the other *Secretions* than is usual for other Men of the same Age, Stature, Weight, and Strength, within the same Climate, and who have the same Manner of Living; if this continue long, it must produce a *Discrasy* of the Blood in that Person, and he must fall into some *Disease*, or else why should all the others continue in Health, and he too, when there is such a notable Difference in the Animal Oeconomy?

Neither, with Submission, do I see how this Difficulty, by the History of Cures, is taken away; for altho' Authors give good Diagnosticks and Descriptions of Distempers, whereby we may know them; yet how do we find the *Canon* by this, of determining the true and just Quantity of Blood to be let from every Patient? The Generality of Authors, who are practical Writers,

ters, speak in this Manner : A young Man, for Example, of 25 or 27 Years old, was taken with a synochal putrid Fever, he was bled two or three times to about ℥ xxx , &c. and in about 16 or 20 Days he recovered. So a young Man of that Age was taken with an *Angina*, and was order'd Bleeding to ℥ xl , and recover'd in 4 or 5 Weeks. Another was taken with a Rheumatism of the same Age, and was bled ℥ 40 , and he recover'd in 3 Months. Another perhaps says, A strong young Man of a bilious or melancholic Constitution, of the same Age, was taken with a Pleurisie, and bled ℥ xl , and he recover'd in five or six Weeks.

Here are several young Men, all of an Age, *viz.* 25, who had several Diseases, Fevers, *Angina's*, Rheumatisms, Pleurisies; they are indeed said to be young Men, and of a determin'd Age; but are all young Men alike well grown, and have they all the same Degree of Strength? I hope no body will say this.

How far Strength of Body, Capacity of Generation, and other womanly Qualities, depend on Size and Bulk, I refer to that well known, ancient and stated Maxim among Mankind, *viz.* when the Query is about Matrimony, they say, *If a young Woman is big enough she's old enough.* Some of the Sex, at 12, are bigger than others at 18, and fitter for that Purpose. And why should not Strength, Capacity of Generation, and other Qualities of the masculine Sex, as much depend on Size and Bulk, when Men once pass 14 Years of Age? I humbly think the Conclusion is *a majori*, because young Men use greater Exercise, and the Perspiration is greater.

Many

Many young Women grow no more in Stature, after 18 Years old. For Example, let us suppose one of this Age come to her full Growth, who is not near so big as another at 12 Years of Age. Again, let us suppose them both married at these Periods of Time, and that the young Woman of 18 brings forth a Girl when 19 Years old, and she of 12 brings forth her first born, a Boy, at the 13th Year of her Age. Let us suppose again, that some time in this Year, after these Births, that both these young Women are taken with a synochal putrid Fever. Phisical Writers say thus ; A young Woman in her 20th Year, two or three Months after her first Child, had a synochal putrid Fever ; she was bled twice, $\bar{3}$ x at a time, &c. and she recover'd in six Weeks, or about two Months. Of the other they will say : A young Woman in her 14th Year, after her first Child, about three Months, had a synochal putrid Fever ; she was bled $\bar{3}$ xx, at twice, &c. Her Fever lasted a Month, and she recover'd pretty well in about three Months.

Now if two such Patients should happen to a Man, what Directions, in such lame Histories, can he find, how to determine what is the true Quantity of Blood to be taken from his Patients?

Was she in her 20th Year a Rule for the Physician, to prescribe the same Quantity to be taken from the other in her 14th ? or she in her 14th a Rule for the Physician's taking the same Quantity of Blood from the young Woman in her 20th ? These Cases so often happen, that they must be granted, and it is as plainly to be believed, that several such as both these Patients, die frequently under such Treatment ; and it is evident by

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the Rules of *Physick*, that the young Woman in her 14th Year had a great Risque of her Life, for the Fever ran out a Month, and she had recovered only a tolerable Strength in three Months, from the Day of her first Illness, and this was owing to a parsimonious Venesection, which according to good Reason should have been 3 xxxvj, or xl. And many others, without doubt, die for want of it : for Authors don't care to tell the Miscarriages of their Practice ; or but very few, for every one would be an *Hippocrates* or a *Galen*.

Seeing the just and true Quantity of Blood to be let in Fevers can't be determin'd by the *Temperaments* or *Constitutions*, as defin'd by Medical Writers, nor by the Histories of Diseases, according to the usual Manner we find them related, there remaineth only the exact Knowledge of *Perspiration*, for which Experiment before both Physician and Patients are rich, they'll never one or t'other take the Pains.

Or else we must have Recourse to Size, Bulk and Weight, and here we shall have visible Appearances, and determin'd Effects to build our Conclusions upon (Respect still being had to the Nature of the Distemper) For example, three Patients being taken with this Fever, suppose they are all of the same Age, 25 ; that the first Man weigh an 100 Pounds neat, the second 150, and the third Man 200, and that they are all three of a middle Habit of Body, viz. well-flesh'd, but not fat ; there is a considerable and most important Difference of the necessary Quantities of Blood to be taken from these three Persons, which is known in every Climate by establishing a *Canon* for some
one

one of these three Sizes, from whence you can truly infer the Quantities for all the others, as I have afterwards shewn how I did this at *Lisbon*.

Next, from the visible Effects, in the certain Cure of other Acute Distempers, as *Rheumatisms, Apoplexies, Pleurisies, Angina's, &c.* viz. from the known Quantities necessary for these Cures, to be taken from People of the same Sizes, Ages, and in the same Climate, we may, when the same Persons are taken with a Burning or Synochal Putrid Fever, of dangerous Symptoms, pretty near determine the true Quantity necessary for that Fever. So comparing these visible Effects recipocrally, we come to know the greatness of the *Plethora*, of the Fever of that particular Man, whether of 100, 150, or 200 Pound Weight; which must be diminished by Venesection, to near the healthful Quantity, necessary and usual for the Oeconomy of the Body, before we can with reason expect our Medicines should take place, in order to procure the *Crisis*, which follows the Genius of the Fever, as I have remark'd in treating of Fevers.

So to make History useful, practical Writers must ever express the healthful Weight of the Patient; *e. g.* Suppose the Cases of the two young Women were to be wrote, whom I mentioned before, it must be done in this manner.

A young Woman in her 20th Year, weighing in her Health 100 Pounds neat, two or three Months after brought to bed of her first Child, had a synochal putrid Fever; her Pulse was not strong, but beat about 95 in a Minute, &c. she led but a sedentary Life, was bled so many times, and at such Distances,

mentioning particularly the Days, and how many times *per diem*. She had an Emetick such a Day.

But as the antecedent Symptoms should be related, so must the supervening and following, in all the Periods of the Fever, faithfully. Such a Day she had Juleps and Chicken Broth. Such a Day the *Delirium* appear'd, she had Venesection, (which was the 3^d, 4th, 5th time) and Vesicatories. Such a Day an Abstraction of Blood equal to the highest *Plethora*, was compleated, and she had an Antifebrile Apozeme and Powders. So many Days this Regimen was continued, and such a Day a perfect *Crisis*, by an equal, easy manner of Sweat, over the whole Body, succeeded, which was promoted with small Draughts of Posset or Broath, at due distances of Time, which lasted so many Hours, and might amount to so many Pounds of Sweat, by either weighing the Shirt or Sheets, and allowing a Consideration for what was dry'd up and exhal'd, in the time she was cooling gradually, or the Sweat was diminishing; or after some Experience of this kind, it may be taken very near by conjecture. Or such a Day the Signs of Separation were seen in the Urine, as a *Nubecula*, or two or three white Spots on the top of the Urine, &c. She had a more cordial Julep. So many Days this proceeded, till there was an indifferent or good *Hypostasis*. This Day she had a small Paregorick Julep at Night. Two Days after, (mentioning always the Day of the Month) she was purg'd with ———; or Purgings was forbore, for such a Reason. In six Weeks or two Months she recover'd her usual Strength.

So likewise another young Woman in her Fourteenth Years (about three Months after she was brought to bed of a Son, her First-born) weighing in her Health 140 or 150 Pounds neat, was taken with a Synochal Putrid Fever; her Pulse beat 90 in a Minute, but strong; for in her Health she is one of those, who have what (by a vulgar Expression) we call a thumping Pulse, &c. This Woman, tho' so young, under the Direction of a prudent Mother, was us'd to stir, and serv'd the Exigencies of a large Family, which consisted of a great number of Children, Servants, and working People, &c.

Thus expressing the Patient's Age, Manner of Life antecedent to the *Acute Distemper*, and the last healthful Weight, from such limited Effects, and determin'd Impressions, we can easily form perfect Ideas (upon reading the History of another Man's Cure) whether it correspond and agree with our Patient; which we cannot do at present, at the rate Historical Writers are wont to deliver the Relations of their Cures.

There is but little Trouble in this Experiment, scarcely the poorest Creature, but at his Physician's or Friend's Desire, will be able once in a Fortnight to step into some Tradesman's Shop, and get himself weigh'd, which he shou'd get set down in a small Paper-book for his own Benefit, in case he chance to fall into an Acute Distemper, to let his Doctor know what was his last healthful Weight. And here I must observe, that it is a mighty Advantage to the Physician, if before he was acquainted with the Patient's healthful Pulsation.

Nay,

Nay, as I have said, that there is great room for Practice in Chronical Distempers, supposethis Person should fall into an *Atrophia*, where there is scarcely any visible Cause, comparing all the Degrees of declining Weight, at proper Distances of Time, to his healthful Weight, the Indications of Cure in *Inanition*, and the fit Medicines to be prescribed, wou'd be as obvious as in the Distempers found in all the *Latitudes* of increasing Weight.

By this means we should not need to puzzle our selves about the Constitutions, whether Choleric, Melancholic, Sanguin or Phlegmatic: For we can form no better Idea of them, than by considering the Strength, the Age, and all the other Manly or Womanly Properties and Effects accompanying that; which all depend on the Size and Bulk of the Person, the *prima Stamina Vitæ*, more than any other Cause, (I humbly conceive) that can be assigned in Human Nature.

I am sensible for all this, that there is here and there an Exception from this excellent Canon, as from all other Rules in Arts and Sciences useful to the World; which will be easily distinguished by the Skilful, from what I have said on this Subject, throughout my Discourse of Fevers, as well as from all the other more usual Indications observed by Physicians. And therefore I shall here discuss all those *Objections* which seem to be of greatest moment, and are most difficult and knotty.

Object. 1. If the Patient is seized with an Acute Distemper (but has been frequently subject to the *Affectus Hypochondriacus* or *Hystericus*, commonly called the Hyppo and Vapours) suppose a Fever; there

there will be an Exception from the *Canon*, and they must not be let blood so high as those of that Size may otherwise require, because the Blood of such Persons is more impoverish'd than usually.

Ans. But let us consider the Number of Men and Women, who may be under these unhappy Circumstances, cannot reasonably be suppos'd to be one fifth or sixth of Mankind. For reckoning Manhood from the Age of 12 and 14 till 30, they are rarely prevalent, (Tho' even here again it must be allow'd, that some young Creatures, especially Females, born of hypochondriac Parents, brought up in too hot an Air, by the Mother's Side, who is afraid to let in the Summer Air at one Window only, for fear it should spoil her Complexion, or throw her into a Fit of the Vapours; who for want of Exercise, in a long Course of Time, lose their Appetite, and as irregularly seek for Remedy from dainty Morfels and cordial Drams, out of my Lady's Closet, of Dr. Stephens's, Plague-water, *Aqua Caelestis*, *Aqua Mirabilis*, *Ratafia*, all of my Lady's own distilling; I say those young ones must be excepted, tho' this happens but rarely, so there's no Rule without an Exception) for till 30 they rather exceed in Pleasure and Mirth, which is the other Extream. And this is but too evident from the common Observation, that Mankind are strong at 30, wise at 40, or else never strong nor wise. After this time, when this Tyrant does invade any one, he is that Wretch, who is not only a Burden to himself, but often a Plague to the whole Family where he lives. It is an hard matter to determine which of the Sexes has the greater Number of Sufferers by this Distemper, but I'm
sure

sure it would be a great Punishment to ours, if but one 5th or 6th Part of the Fair Sex were infallibly Captives or Slaves to this, seeing Female Society in a conjugal State, is believ'd, by the Wise and the Learned, to be design'd by the Great Author of Nature, for an Alleviation of the Husband's Cares, who is bound to make provision for his own in all lawful Ways, even tho' attended with many inevitable Hazards of Life. Yet for all this, Persons of both Sexes in this Distemper ought to be let blood once or twice, in order to their more speedy and happy Cure, upon such occasions as I have mention'd in my Discourse, which has been as little taken notice of by the practical Writers of this Distemper, as that ever this general Canon should take place in its full Latitude; in the Cure of all the Acute Diseases, has been observed by those who wrote professedly of the same.

Object. 2. There will be an Exception again, if the Patient shou'd be seiz'd with a new Fever, before he has quite recover'd of a former, because his Blood is more effete and dispirited, Venesection must be more parcimonious. But the Indication is not so great, when the Patient's Muscles are apparently depleted, and he is sensible that he wants a great deal of that Strength, which he had before his first Fever. And yet where these two Signs are not found, the Patient may be bled in the second Fever, according to the full Latitude of the Canon, or very near to it; as in my own Relapse of a Fever at *Rocheſter*, hereafter mentioned, of which probably I had recover'd without a Relapse, or that imminent Danger my Life was in apparently at that time. The Reason is obvious why the Indication of Bleeding

is less, when the Patient's Muscles are apparently depleted, and he is sensible that he wants a good deal of his wonted Strength, because the *Plethora* can never rise so high, as when all the organical Parts are in their full Vigour, and so likewise preserv'd by a full Nutrition.

Object. 3. So likewise if a Person recovering of an *Icterus*, should be seiz'd with a Fever, *Venesection* must be sparing for the same Reason, viz. the *Plethora* being small; because even the Antients suppos'd scarcely any *Plethora* in an *Icterus*, particularly *Galen* alledgeth he never found any necessity for this Evacuation. And yet I have found it necessary sometimes, in the Cure of an *Icterus* of strong young Men, who made use of the *Spanish* and *Portugal* strong White Wines for their ordinary Drink, in the hot Countries.

Object. 4. The same Objection must be made against the *Canon*, when a Person having the first Degree of the Pox, is seiz'd with a Fever, *Venesection* must be sparingly used, because Nutrition was hurt or diminish'd, some time before, and there never can be a great *Plethora*, where this is an Inhabitant.

Object. 5. This is the most important of all the Objections against the *Canon* of taking the Indication of *Venesection*, from the Weight of the Person in *Acute Distempers*; (therefore I shall spend more time upon it) tho' all the other Indications must be likewise minded.

Suppose two healthful Men, and of an Age, young, and of different Weight, one weighing an Hundred, and the other an Hundred and forty or fifty Pounds, the Man of the Hundred may be as strong as the other.

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This indeed I have known, altho' never in my Life, that a young Person of 25 Years old, weighing but one Hundred Pounds had as much Strength as another of two Hundred or two Hundred and fifty Pounds Weight, of the same Age, equally healthful, and of the same Figure of Body.

Is it not a received Maxim among Mankind, that upon seeing a large Animal, we presently say, this is a vast strong Horse or an Ox? This is grown up with us in daily Experience so long, that it seems indeed almost to be natural, inso-much that a Child, who is not in the least concern'd at the sight of any ordinary siz'd Dog, will immediately cry out with Fear, seeing a Cur but twice as big as ever he had seen before, come into his Company. Do not the *Spanish* and *Portuguese* Nations make it a great Crime to kill any of their large siz'd Cattel (by the Sanction of a Law) till the Master of the Beast does prove, before a Justice of the Peace, that he is past his Labour? Are not the Oxen for heavy Carriages twice as big as the other Cattel of those Countries? It is apparent that the greatest part of the Cattel, I may say more than five Sixths of these Countries, are but about the same size with the Cattel of *Scotland*, and the Breed for drawing Carts, Waggon, and other heavy Carriages, are as big, if not bigger, than the largest size of *England*.

Is it not a receiv'd Maxim, that a Corps or Body of English or German Foot Soldiers, are more than a Match for a like number of French, supposing they are both alike officer'd and disciplin'd, &c? This I have heard affirm'd by the most experienc'd and candid of our Officers, so
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often and universally agreeing, that I think it past doubt. No Experienc'd Officer of ours but does allow, that the *French* know how to discipline their Men every whit as well as we can ours; but the Reason they always give is, that the *French* generally are a smaller siz'd People than *English* or *Germans*, of which their Strength is a Consequent.

The same Reason they give why a Body of *Flanders* or *English* Cavalry would be too hard for a like Number of *French* Horse; because the Horses of that Country-Breed are less, and their Feebleness is a Consequent of that.

Don't we see that the large siz'd *Africans* are proportionably stronger Men than we are; whose large Size I have noted elsewhere?

Have not all Historians Sacred and Profane, told us, that the Giants of old who were stronger than other Men, were also so much bigger?

Wou'd it not otherwise be worth while, in a place of great Traffick, such as *London*, where there is always occasion for great Numbers of strong Horses, for the heavy Carriages of Merchandize, to buy *Scots Gallaways* for 12 or 15 Pounds, when they ordinarily bestow 25 or 30 Pounds Sterling for a large siz'd Horse, near twice as big, taking the Proportions every way? This wou'd be so much Money sav'd. That there are some *Scots Gallaways* indeed very strong, and it may be as strong as another Horse one third part bigger, I don't doubt, but they are very few, and but an inconsiderable Number. Nay it may be alledg'd, that it may indeed happen that a *Gallaway* may sometimes be as strong as another Horse twice as big. To this

this I answer, As the first is an Exception from the ordinary Course of Nature, this last can hardly ever be, supposing the Beasts to be both young, and of an Age, about 6 or 7, or 8 Years old, and that they have grown up equally free from all manner of Distempers. Indeed if the big Horse has been under any manner of Indisposition, tho' he may seem to be recover'd, yet he may not really near have got his Strength, and by this means the small Horse may be stronger.

So I will allow, that a Man weighing an hundred Weight, aged 25, the same with another Man weighing 150, may happen to be as strong as the larger Man, but never so strong as a Man of the same Age, weighing 200, or 250 Pounds, supposing still they are both of one Figure and Make of Body, and that they have both equally been free of all Distempers, have had no want or pinching of Food, have grown up in the same Country, where the Air, and Exercises, differ'd only *Secundum Majus aut Minus*, and that the usual Recreations allow'd to young People, were not deny'd to either.

When I found one weighing but 100 Pounds, and as strong as another weighing 150, tho' both about 25 Years old, &c. I constantly observ'd that there was a differing Figure of the Persons Bodies, so that the Man weighing 150 Pounds, was considerably taller than the other of an 100 weight, and the little Man broader between the Shoulders, in proportion to his Body, than the other of the 150 Pounds; and where the Square of the Shoulders is larger, the Ribs must be in proportion, if the Symmetry of the Parts is preserv'd, where-

whereby (as so many *Fulcimenta* or *Scale-beams*) with the Help of the Muscles and Tendons duly corresponding to them, (as well as those belonging to all the other Bones of the Body) which are the immediate Instruments of all Motion requiring Force and Strength, their united Force will be firmer; and by this peculiar Organization and Mechanism, the *Phænomenon* is to be solv'd, rather than from a greater Quantity of Blood.

Which seems agreeable to a general Position among the *Mathematicians*, particularly asserted by Bp. *Wilkins*, in his Treatise of *Mathematical Magic*, that so small a Strength as that of an Horse-hair for the *Primum Movens*, may be so dispos'd to effect another Movement, whereby the Force of the second may be augmented very near, if not quite in a double Proportion. This Increase being allow'd from one part of a Machine to another, it is easy to conceive what he asserts, that by no great Number of Movements, the Horse-hair may be able to pull up a great Oak by the Roots. An Instance of this kind are our *Cranes* for lifting great Weights of Goods either into or out of Ships. I am inform'd by a Man, who has much Experience of this Machine, that four Men, with certain *Cranes*, will be able to lift 25 Tun Weight.

This, I think, may be still better understood, from a nearer *Simile*, taken from a Maxim I find allow'd by all the most famous Artificers of Watch-work: That they find by Experience a Space of six Inches, or six and a half Circumference, for all the Wheels to move in, is much better than four Inches and an half, which was the old Dimension, even for many Years after

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the

the *Pendulum* was found out. Tho' this is the Standard for portable Watches, yet they allow, that an Extent or Space three times as big would be but room enough for the Wheels and Movements of a Watch, made to go three Months without winding up, which would without all peradventure perform all the exquisite Motions requir'd of a Watch in much greater Perfection.

This Example I take to be pretty near our Purpose, for by all Physicians the Muscles are allow'd to be the immediate Instruments of Motion; therefore those of a smaller Size, though they perform the same Motions, yet not so well, nor so forcibly as the larger.

This Difference will better appear from our four Cardinal Sizes, assigned *Chap. III. viz.* Men of 100, 150, 200, and 250 Pounds Weight. For though the least sized Man of an hundred Pounds Weight, may chance to have as much Strength as he of 150, and his Blood in proportion to its Quantity more Spirits; yet the other has undoubtedly more Animal Spirits in his; though this may be no great matter neither, it being so much a greater Quantity, supposing always that they are both alike young, from 20 to 30 Years old, equally free from all Distempers, &c.

Therefore, admitting the lesser Man has a very dangerous high Fever, where the highest Venesection is to be made use of, he may on the Account of his Strength bear an Effusion of Blood, about half a Pound more than the extraordinary Evacuation for Men of the last Cardinal Size, *viz.* ℥ iv. 3 viij. as in the *Chapter* above-mention'd. And yet he may recover as soon as the taller Man of 150 Pounds, if in the
like

like Case he were bled five Pounds. For by reason of the taller Man's Figure of Body, his extraordinary Evacuation must rise no higher ; which young Men of this Weight and Figure of Body can bear, as I have found by Experience. And I my self, being one of this Cardinal Size and Shape, viz. 150. near six Foot high, when I was cur'd of a *Synochus Putris* in the 2d Relapse at *Rocheſter*, by an *Hemorrhagy* of lb iv. besides what was taken by Venesection, I could at that time have bore the extraordinary Evacuation for Men of my Size, viz. lb v. 'Tis plain then, why the lesser Man, if bled something beyond the extraordinary Evacuation for Men of that Cardinal Size, will recover this sooner, than if we should take but the same Quantity of Blood above the extraordinary Evacuation for Men of his own Cardinal Size, from him of 150 Pounds Weight, because his Vessels and Muscles will sooner recover their Spring and Elasticity.

I think it still more apparent, that Strength proceeds chiefly from the differing Organization of the Muscles, if we consider *the strong Man*, who lately made such a Noise in *England*, who was only a Man, as I am inform'd, about the Cardinal Size of 200, well flesh'd and not fat, had a Strength with the Help of Slings, and an artificial Posture of Body, just to lift above the Ground an Inch or two, near 2000 Pounds Weight. He was undoubtedly as strong a Man as any of that Size, and yet there might be many more, who would have done the same thing, if they had begun as early to practice that Geometrical Position of Body he required. A Practice of many Years made him acquire a

xxxvi *The Introduction.*

Slight in that Experiment; and by placing himself within two Inches of the *Æquilibrium* of the whole joint Force of the Muscles, by long Practice he cou'd raise himself instantly to that small Height, and hit the nice Point far better, than any other who had as much Strength as himself, but wanted his Art.

This is evident, because there were many Men who could lift as much as he in other Positions of the Body, and perform other Exercises and Trials of Strength beyond him. A strong Man can carry 500 or 600 Weight, and let us allow him to have been able fairly to carry 1000 Weight, that is, as much as two strong Men; suppose this, I say, altho' I don't grant it, it will not follow, that he had twice as much Blood as the other Man of the same Weight and Age, &c. who could carry only 5 or 600 Pounds Weight. For the Difference chiefly lieth in the Muscles, although the Blood is undoubtedly in greater Quantity likewise, yet in no greater proportion than would be able to produce a *Plethora*, which would require an *Evacuation* near the extraordinary one, of the next higher Cardinal Size of Men, if this same strong Man called *William Joyce* had a Fever, with those Symptoms which require the utmost Venesection: And this moreover I have found true upon sufficient Experience. It is therefore manifest, this is only a very rare Exception from the Canon.

Notwithstanding this, the Examination of the Pulse in Fevers is not to be neglected, and the Physician will always be enabled to judge so much the righter, by how much more he had accustomed himself to take the Patient's health-
ful

ful Pulsation ; and where this is febricit, but strong, with the other concomitant and urging Symptoms, we must not scruple a large Venesection, but still according to the Difference in the Cardinal Sizes, where certain Sizes of Men sometimes do most certainly require five or six Pounds of Blood to be taken away, which is no Figment, but grounded on exact Experience ; for all the most specious and plausible Speculations, the most curious, well-wrought, gilded, and shining *Hypotheses*, are no more in the Medical Art than airy Phantoms and meer *Chymera's*, if they won't answer in Practice. Indeed of all things in the World, these are the most pernicious in the Art of Physick, as is to be seen in the Practice of Empiricks, through the several Ages to this very Day, (where there is enough of it) taken Notice of by the Dogmatical Physicians in their Writings. For other Arts can admit Tryals of every Scheme and Hypothesis, without Prejudice to any body, except the Expence and Labour of the Projector. But it is not so in the Medical Art ; we can proceed no faster than Step by Step, and when thus we have carry'd the Practice of any particular Distemper to a higher Pitch than usual, and still to an higher Degree of Certainty of Cure, *then*, and not till *then*, we may adapt our Hypotheses, and make them fine by Mathematical Demonstration ; and here it is, that *Mathematicks*, as another *Logick*, must begin, and not sooner.

It may be said, that good Physicians know a l this, that strong lusty Men in Fevers are to be bled more profusely than others ; I don't say any thing to the contrary, but I must only af-

firm, that I have never been able to find, from any Medical Author ancient or modern, what Quantity is just to be taken from this or that Man, (besides the deficient Description) so that without any Breach of due Modesty, I may conclude, this has not been taken notice of, else so many consciencious, good and learned Men, would have imparted this Piece of Knowledge for the Good of Mankind, as well as they have the other Fruits of their Labour.

Sensible and definite *Idea's* are so necessary for the Description of all sorts of Quantity, that I have been inform'd by an ingenious Gentleman, that the learned and worthy Dr. King was wont to please himself with this familiar Example, when he would have a Man speak clearly upon any Subject: "For my Share (says he) I should never know what a Pint of any Liquor is, if I had not been shew'd a Pint-pot, or something like it that holds that Quantity."

When *Octavia* fainted at *Virgil's* repeating these Words in the VIth Book of his *Aeneis*:

*Heu miserande Puer! si qua Fata aspera rumpas,
Tu Marcellus eris.*

Her Passion was so deeply engag'd, that upon recovering her self but a little, she order'd 10000 *Sesterces* to be paid the inimitable Poet for every Verse of the whole Piece. The noble Patroness was no less than *Cæsar's* Empress, and the Poet was *Virgil*; but what right *Idea* can a *Britain* have of this Bounty, unless the *Roman* Money be reduc'd to the *British* Coin? And how

can we have any Idea of the Charge of *Alexander's* Army that he conquer'd the World with, or of that of the *Roman* Legions, auxiliary Troops and Fleets, which were necessary to maintain the *Empire*, when it was in its greatest Glory, if these Monies were not exactly reduc'd to the *British* Standard? Hence *Erasmus* says very well: *Sed obsecro te quid divides, aut finies, aut quid colligis, si rerum, de quibus differitur, vim ac naturam ignores? Quid profuerit tibi concinnasse syllogismum in Celarent aut Baroco, de Crocodilo disputans, si nescias quod Arboris vel Animantis genus sit Crocodilus?* De ratione veræ Theolog.

Now they who fall under the immediate Cognisance of the *Canon*, are indeed all such Persons, without Exception, who are the proper Subjects of Fevers; who from the adult Age, till the time mention'd by *Galen*, 50 or 60, are strong, healthful, blith and chearful, whose Strength and Beauty of Body suffer very little Diminution: Of which Number generally Soldiers and Sailors are. Suppose one of these taken with a continual Fever, attended with urging Symptoms, so as I have describ'd, whose Weight is about 200 Pounds, I can affirm, this is the Man, whose highest Evacuation by Venesection may on these Accounts be safely carry'd to about six Pounds.

At pulchrum est digito monstrari & dicier hic est.

These are the Persons, whose highest Venesection must be judg'd by the *Canon* in Fevers; and yet these very Persons may have many continual Fevers, where the half of this *Terminus Ultimus* will be sufficient; and others again,

where Venesection will not be necessary at all, as I have shew'd in my Discourse following.

When we know the determin'd Weight of the Patient, the Distemper, and see the Urgency of the other Symptoms, (altho' the Strength of the Patient cannot at all be measur'd by the Pulse; for sometimes the Rigidity of the Season hinders us from the true Pulsation; at other times, and not in a few Persons, the Artery lyeth so deep, almost betwixt the two Focils of the Arm, that the Blood imparteth not half the true Force to the Touch at any time; (which Defect I have sometimes supply'd by feeling the Pulsation of the temporal Artery) or an inconvenient cold Lodging does the same, tho' ordinarily they run into the other Extreme; or a most prodigious high *Plethora*, where there is no room for the usual feverish Circulation, as the learned and excellent Dr. *Sydenham* has given Instances, till some Venesections are perform'd.) I say, when we know all these things, we can conclude, that in this Subject there is such a Quantity of Blood given, that upon the greatest Extremity may suffer such a Diminution, as five or six Pounds, admitting the Weight is 200 Pounds.

It is most important to the Physician's Direction, as well as for the Patient's Welfare, that he should be acquainted, that the little Man of 100 Pound Weight is as strong as another of 150 Weight, and so throughout all the Cardinal Sizes.

Now how can this be better known, than by the lesser Man's Trial of his Strength with those who weigh much more than himself (as for example those of 140, 150, or upwards) by wrestling,

ling, lifting, carrying, throwing a great Weight, &c? All these being *determined, limited and sensible Idea's*, are surely better Demonstrations to guide the *Practical Physician*, than when they are indefinite, and we are left to wild, distracted Conjectures, as when they express only People's Age, without describing the Degree of Strength, which may be competent to it. As I have affirmed, that the Size and Weight of Patients is a general Rule, from which we can take our Indication in Blood-letting, (on which likewise the Puberty and Maturity of both Sexes doth almost entirely depend) so I have shew'd, that it hath some Exceptions, as the best of Rules have, and I have pointed at the principal ones: Yet I shall be oblig'd to him who will shew me a more general Rule in the whole Art of Physick, or Animal Nature, less liable to Exceptions.

After all I must confess that Maxim, *Deus & Natura nihil frustra faciunt*, seems so much to favour our Position, that I cannot well see wherefore the Almighty *Author* of Nature made Multitudes of Men not only of an 100 and 150, but also of 200, and great Numbers of 250, and many of 300 Pounds Weight, and much above it, and all these latter as well proportion'd, and more stately, than those of an 100 and 150 Pound Weight; if there was no other use for them than to be look'd at. As for their Souls, that they should be alike is clear enough, because they are an Intellectual Being, not to be bounded with corporeal Dimensions.

Although the Divine Providence has not yet permitted me to establish the true Difference of the Practice of *Acute Distempers* in England from that

On matters, principles, would not the degree of the brain influence the degree of the thinking capacity? & I will lay out heads for the world

that of *Portugal*, yet I am so far from envying the Happiness of Mankind, that I have communicated *this* to some worthy and ingenious Men of the Faculty, both in *North* and *South-Britain*, and by their Advice am willing it likewise should be imparted to the Publick, till it please God to send me Health and Conveniency to make one of the Number; who may do it my self.

I have had six Years Practice in *Portugal* after this manner, since I fell upon this Notion, which has put the Question out of all doubt with me, having had sufficient Numbers of Patients to confirm me; and I have very good Reason to believe, that the Difference will not be found mighty great in our *Island*, seeing the learned and excellent Doctor *Cole* has given us Instances in his Book of *Apoplexies*, that he many times found it necessary to make the Evacuation as high as I found it in *Portugal*, and so he did me the Favour to assure me, that he had found the same in the Cure of the other acute Distempers, *Epilepsies*, *Angina's*, *Pleurisies*, *Rheumatisms*, *Fevers*, &c. which I am very apt to think may be much a safer Method, than attempting to cure by three times the Quantity of *Opiates* that ever Dr. *Sydenham* prescrib'd, for any of the Distempers of this Class, as I am inform'd the Custom of some is, namely for the *Passio Iliaca*.

There is but little Hazard in taking away a Pound of Blood more than is usual from a lusty young Patient, where if the *Medical Art* has any Certainty at all, the *Plethora* sometimes must be five or six Pounds; and so we may go on by Degrees, till we see whether we can cure well, before we reach the Quantities, which I found necessary in *Portugal*.

This

This also may be known by observing how Soldiers in perfect Health immediately before their being wounded, losing five or six Pounds of Blood, whereby the Mass is evidently brought below the *Æquilibrium*, recover sooner, (but having many of the same Symptoms) than if the same Persons had recover'd of a synochal putrid Fever after a too scanty Evacuation ; which I have taken notice of frequently. I can avouch from many undeniable Instances, that the *Portuguese Physicians* took away ten Pounds of Blood in Fevers, where I found five and six to be sufficient, and yet more of these very Patients recover'd, than others of the like Age, Strength, Weight, &c. treated by our Physicians in the same Distempers, according to the Quantity prescribed by Dr. Sydenham.

I must own the Truth of the Proverb so much, *A Young Lawyer and an Old Physician*, that I am perswaded a Man who has study'd the necessary Authors, and taken the usual Helps of *Anatomy, Botany, Pharmacy, Chymistry* and *Chyrurgery*, when he has practis'd Physick but three or four Years, is a better Physician than he who comes just out of the University endow'd with all the Learning ever any Man of the Profession or any other had ; so that, as I humbly take it, it is not for such to try new Practice, because they are not sure of any thing relating to Practice, till they see it ; and then it is confirm'd or rejected upon sufficient Experience. But it is but just, as well as safe, where there is doubt, (as the very learned Dr. Baynard says in his Book of the Use of Bathing) that the Physician first employed should call in the Assistance of others.

I shall think my self much oblig'd to the Generality of the Faculty; if they let me pass for offering one Step out of the common Rode, with the same Censure they were pleas'd to bestow on our immortal *Harvey*, for the great Blessing he imparted to us of the *Circulation*; when among many obstinate Opposers, needless to be nam'd, a certain *Physick-Lecturer* said in one of his Discourses without more ado, *For Harvey* (says he) *we explode both him and his Circulation*. It is well known how disingenuously *Sylvius* not only call'd that excellent Anatomist *Vesalius*, only for contradicting the Ancients in some things they had said, *Vesanus*, or *mad*; but representing him as a dangerous Man or Innovator, never rested till he got the Emperor to banish him the Court. In like manner, as I have been inform'd by credible Persons in *Spain* and *Portugal*, Natives of the Countries, an *Italian*, who first affirm'd that there was another Part of the World undiscover'd, and now call'd *America*, lay long in the Prison of the *Inquisition*, and was at last burnt for an *Heretick*. If I escape with the first, or that it goes no farther than hard Names, and Aspersions, I am ready prepar'd, *Spectator invidiosus sibi molestus*. But if it shall please God that I be accepted of by the Good and Wise, so far only as that they allow me to have added my Mite for the Common Good of Mankind, it is all I desire, and I have my Wish.

De vera Sanguinis Missione :

O R,

New and Exact Observations

O F

F E V E R S, &c.

C H A P. I.

Of continual putrid Fevers, exquisite but without Exacerbation, and the natural way of their Determination, which was the first Experiment.

I Had observ'd that those who die of *Fevers* in Physicians Hands, both in our Hospitals abroad, and at *London*, and elsewhere in not a few Places of this *Island*, for several Years were generally the lustiest, both of the young, strong, healthful People, and likewise of the elder sort. The

2 *New and Exact Observations*

The Symptoms which prov'd so mortal were commonly the *Delirium*, *Phrenitis*, *Coma* or *Stupor*, whether they came in the *συνεχοὶ πυρετοὶ* or *continual Fevers*, as mentioned by the *Britannick Hippocrates*, *Dr. Sydenham*, *Cap. 4. de Feb. Continua Annor. 1661, 62, 63, 64.* Or whether they came in the *συνεχῆς* or *Fevers Continual*, but with *Exacerbation* and *Remission*, describ'd by the same Author in *Schedul. Monitor.* for those of the Year 1685.

It is very remarkable that the rest of the Train of Symptoms were observ'd by this faithful Historian to be in a manner the very same both in the one and the other.

In the first he reckons besides the *Delirium* and *Phrenitis*, *Vigiliæ*, *Diarrhœa*, *Singultus*, *Hemorrhagy* at the Nose, and the *Iliaca Passio*. In the latter besides the *Delirium*, *Phrenitis* and *Coma*, he reckons *Aphthæ*, *Diarrhœa*, *Dysenteria* and *Passio Iliaca*.

Most of these treated the Patients, taking the curative Indications as he did; and so did I myself in my Practice, and with equal Success.

Among others, I remember'd that my Mother, who was a Gentlewoman of that Complexion which we call the right sanguine, healthful, strong, and without any visible Declension before her Sickness, dy'd of one of these Fevers, Venesection being prescrib'd by her Physicians but to ℥ ij at twice; and she was one of a Cardinal Size, compleatly 200 Weight, with all the other *Postulata*, which require the greatest Phlebotomy.

Among those who escap'd by this Practice, I had taken Notice of a few, who had this good Fortune by Hemorrhagies at the Nose, or oftner from the Hemorrhoidal Veins; but then it was

Of FEVERS, &c. 3

always large, 3, 4, or 5 Pounds of Blood. Of this Number I my self was one, who after a quick Relapse of an *Ephemeral plurium Dierum*, did fall the third time into a *Synochus Putris* with a *Delirium*, of which I was narrowly deliver'd about the 10th or 11th Day by an Hemorrhagy of pure Blood, to the Quantity of ℥ iv. and upwards from the Hemorrhoidal Veins. I had only two bleedings, each ℥ j. for all these Fevers, prescrib'd by the Physician to the Sick and Wounded then at *Rochester*, Anno 1695.

I had observ'd in a Ship of War, whose Complement of Men was near 500, in a Mediterranean Voyage in the Year 1694 chiefly, and in the Year 1695, where we lost about 90 or 100 Men mostly by Fevers, that those who dy'd were commonly the young, but almost always the strongest, lustiest, handsomest Persons, and that two or three escaped by means of such Hemorrhagies, which were 5 or 6 Pounds of Blood.

In the Years 1703 and 1704, while I was Chyrurgeon to two of her Majesty's Ships of War, remembring the ill Success that attended this Practice where a *Delirium*, *Stupor*, and *Phrenitis*, were found, and that the *Dysenteria's* and *Diarrhæa's* which supervene again upon these, are never almost helpful to the Disease; and that *Diarrhæa* succeeded in all these which I had the Fortune to see, as much to those Patients who had taken Vomits in the beginning of the Distemper, as to those who had taken none at all, altho' Dr. *Sydenham* had thought otherwise: This made me peruse seriously all my own Observations in my former Practice, and examine all the practical Authors I was either Master

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ster of, or which I was able to procure.

*much bleed
largely in
yellow Fever*

I found that the most famous Physicians pre-
scrib'd liberal Blood-letting even in Malignant
and Petechial Fevers; tho' many of our Coun-
try-men, present Practitioners, are afraid to take
away a Drop, and if they take a Pound, they
think that is the *Terminus Ultimus*.

The celebrated, truly learned and most judicious
Sennertus says, that sometimes, and but very sel-
dom, the Expulsion of the *Petechiæ* in this kind
of Fevers is critical. *Interdum motus est planè
symptomaticus, ubi scilicet in principio, crudâ adhuc
omniâ materiâ, atq; die non critico, aliqua evacua-
tio instituitur, id quod frequentius accidit in petechiis.
Ut plurimum enim petechiæ ante coctionis signa, &
ante quam materiâ à naturâ victa sit apparent:
undè etiam morbum non leniunt, sed potius humoris
maligni in venis ebullientis, & vel copiâ vel pra-
vitate naturam stimulantis judicia sunt.* Sennert.
Lib. 4. de Feb. Cap. 11. And in the Fifth Book,
Chap. 13. he says most frequently they are only
symptomatical: *Erumpunt enim, crudâ, feroci, ac
indomitâ planè materiâ.*

Primrose asserts positively, that they never
break out critically, but always symptomatically,
Lib. 4. de Feb. Cap. 11.

Zacutus Lusitanus very justly derides those who
are afraid to let Blood in Petechial Fevers;
says he, *Pertimescentes indè retrocessum ex cute solum
evacuant, impositis humidis cucurbitulis, ad quam
natura excrementa detrudit; oblati Alexipharma-
cis, quæ venenosam hujusce mali naturam præpotenter
retundant; si enim adsint vires & plenitudo ingens,
tantum abest ut retrocedat humor, quin potius levatâ
natura ab onere, quo premitur, faciliùs & promptiùs
humorem peccantem ad externas partes detrudat.*

But

Of FEVERS, &c. 5

But above all I took Notice, that these practical Authors had given Instances, where, in these malignant and petechial Fevers, Patients had lost particular Parts of their Bodies (after the Fever had continued long) by *Gangrenes* or a *Sphacelus*, and yet recover'd their Health.

Sennertus tells us of a certain Citizen in a malignant Fever, who from a Fluxion of Humours on the *Scrotum*, had it entirely through a *Sphacelus* drop off. *Sennert. Lib. 5. part 2. Medicin. pract. cap. 19.*

Arnoldus gives an Instance of a certain Student, (which is a very remarkable Case) who was first seiz'd with a malignant and petechial Fever; and when he was almost free of it, a *Sphacelus* of its own Accord came on his left Foot, who with the help of generous Remedies (his Foot being first amputated) recover'd his former Health. *Disputation. de Gangræn. & Sphacel.*

A like Instance is taken notice of by *Tilingius*, who also concludes the Chapter of the Prognostic Signs of this Fever with these memorable Observations: *Modum autem eventus talem sancimus, Febres Petechiales interdum solvuntur crisi vel exery, hæmorrhagiâ narium, Diarrhæâ; per sputum & sudores copiosos. Sæpius solvuntur mêlæasos, transpositione, quæ fit translatione materiæ de uno loco in alium, non sine regeneratione novi adfectus, quæ mêlæasos salutaris est, cum materia ex loco nobili ad locum ignobiliorem deponitur; & contrâ lethalis, quando morbus in deteriorem & æque gravem mutatur. Abscessus qui locum occupat ignobilem, perfectus est: qui verò locum nobilem, v. g. Pectus, imperfectus dicitur. Febris petechialis aliquando terminatur per apostema in testibus quod aliquoties observavit.*

E

Guer-

I have seen
the hæmorrhage
speculate
in yellow

over

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Guernerus Rolfincius Ord. & Method. cognosc. & curand. Febres general. Cap. 71. Tiling. Tractat. de Feb. petechial, cap. 13.

Sennertus in the Prognostic of this kind of Fever writes, *Istæ tamen maculæ, ut dictum, parum de materiâ, quæ in venis delitescit, & febris malignæ causa est, tollunt. Et ubi delitescunt, idè saltem periculum portendunt, quod indicio sunt, materiam aliò viam affectare, & ad Caput, Cor, aut aliam partem internam cum ægri periculo moveri.* Sennert. Lib. 4. de Feb. cap. 11. Therefore he says, *Neque est timendum ne materia venesectione ad interiora revocetur. Etenim si pars sanguinis abundans detrabatur, non ita exinaniantur venæ, ut ex aliis partibus eo quasi destitutæ, attrahere necesse habeant, sed saltem ad naturalem statum reducitur sanguis. Imò natura oneris quo gravabatur ac opprimebatur, parte levata, reliquum quod molestum est facilius vincet & expellet.* Lib. 5. Institut. Part. 2. Sect. 1. Cap. 17.

Where the Signs of a Plethora are given even after the Petechiæ appear in the Small-Pox, Avicen prescribes Blood-letting, Tract. 4. de Variol. Cap. 12.

The excellent and learned Guernerus Rolfincius approveth of large Blood-letting in the Small-Pox, Measles, and petechial Fevers. In variolis & morbillis, imò petechialibus febribus, quidam sanctè custodiunt sanguinem, pro rato habentes, motum sanguinis ad circumferentiam impeditum iri, metu non ra o inani. Venæsectio trahit ad circumferentiam, motum illum ad cutem non inhibet, quemadmodum non inhibet circulatio naturalis, quæ tamen à circumferentiâ ad centrum tendit. Neque etiam inhibet cacochymia. Impurum talem sanguinem de more licet & quidem largâ manu. Rolfinc. Method. med. general. Feb. Cap. 79.

*innani
via. Rolfin.
6 page.*

11 *In peste censetur damnosa, ægro, et medico; speratam ægri salutem vertit in famelicam, et in ædificans medici gloriam.*
vide 7bis page 160

Of FEVERS, &c. 7

It was very obvious to me from Chyrurgical Practice, that where Amputations of Limbs are requisite, they succeed ten to one better, if the Operation is performed immediately after the Misfortune, than four or five Days after. This all our Surgeons in the Army very well know, as well as in the Navy.

This does not happen, because they who are amputated the 4th or 5th Day, lose more Blood, than those on whom the Operation is perform'd the first Day, for the Blood is ordinarily stop't on the first Day (especially in those wounded with Gun-shot), but because at first the Blood is replete with Spirits, when the Patient being in perfect Health just before that Moment of the Accident, had no *Plethora*, and the Blood being in the due Proportion to the Vessels, for a right Circulation, was just in its *Equilibrium*. Yet almost constantly a small Fever does immediately succeed for two or three Days, which is occasion'd from the Tumour and Inflammation, but chiefly the incessant Pain; and the *Causa Proxima* here is the Rarefaction of the Blood. Now if a Fever, with but a small Loss of Blood, only of two or three Days standing, occasioneth such a Loss of Spirits, that the Patient runs a great risque of his Life, who undergoes the Operation four or five Days after he receives his Wound, (whereas there is no such Hazard if it is done at first), what prodigious Loss of Spirits must there be, where having suffer'd under one of those Fevers call'd *malignant*, 15, 16, or 17 Days, when a *Cacochymia* is certainly super-induc'd thro' this hot *Regimen*, yet at last he is able to bear the Amputation of his Foot, according to the Instance mentioned? To me it is

8 *New and Exact Observations*

very evident, if such a Man had his Foot cut off after 17 Days of a Petechial Fever, (for these Fevers, according to the usual Practice, hardly ever end with Safety by the 14th Day) and recover'd, being of the Cardinal Size, 200 Weight, and known to be a strong Man before this Fever; unless the external Parts were refrigerated, and the Patient burn'd internally, having a small unequal Pulse, which would make it a Lipyrial Fever, hardly any other Symptoms could excuse large Venesection. For the Pulse being little different from what is natural, is no reason at all to the contrary, as I shall shew afterward. But he ought to have been bled five Pounds in the first Days of the Fever, and then he would have bore that Loss of Blood better, and with more Safety, than an Amputation of the Foot after 17 Days spent for diminishing the *Plethora* by the utmost Abstinence (for People in Fevers have scarce any Nutrition) and the use of Alexipharmac Medicines. Humanely speaking, such an Evacuation timely done, would have cur'd such a Man of his Fever perfectly, without this *μετάσσεις*, which was the Cause of the *Sphacelus*.

I have seen
this also in
the Yellow
Fever of America

Seeing by the Event more dy'd of this kind of Fevers than of the rest, taking them one with another, (tho' there are not many among our Sea-faring People, even in the times that Fevers are frequent) and that those who escap'd were commonly long tortur'd under a new Distemper, occasioned by the Translation of the febrile matter on some organic or spermatic part of the Body; I concluded both from my own Experience, and the Authority of eminent Physicians, that Venesection ought to be larger

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considerably ; and if in any Case, it must be in such a Patient whom we now spoke of, supposing he has a Petechial Fever.

But because our Northern Physicians are more afraid to let Blood in this kind of Fever than others, I resolv'd to make my first Trial in other continual Fevers, where Phlebotomy is more indulg'd.

I was the more encourag'd from a late Success with an apoplectic Patient, whom I had bled about ℥v . The Man was strong, not past the Flower of his Age ; and had this Evacuation at three times, of which he recovered ; neither was he weakened so much as one who had undergone the Loss only of thirty Ounces, for the Cure of a synochal putrid.

In the Summer, 1704. cruising in the Latitudes of *Portugal* and *Spain*, we had some of our People taken with the *Suraxú Spuria*, under the Appearance of the *Cholera Morbus*, and the *Dysenteria*, as it is described by the learned Dr. *Willis*, *Cap. de Hypercatharsios Remedio*, by the Title of the *London Bloody Flux*, (according to the vulgar Name) *Ann. 1670, 71.*

The evident Causes were unripe Lemons (which they bought at *Lisbon*) with which they made great Quantities of Punch, which gave the Sherbet a harsh bitter Taste, that cou'd not be avoided, because there was so little Juice in 'em.

The Fever was scarcely to be perceiv'd by the Pulse in the *Cholera*, though it was by the other Symptoms.

I ordered Venesection to ℥ xij . and immediately proceeded to give the Patient large Draughts of a *Decoct. Pulli*, according to Dr.

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Sydenham, only with this Difference, that after the Patient had drank half a Dozen Cupfuls, I ordered the *Rad. Ipopecuan* to be given to \mathfrak{z} β . or \mathfrak{z} ij. in a little of the Broth ; and when they had taken all, I concluded with a Paregoric *Hauftus* ; and to prevent a Relapse, next Day made them begin the use of the *Cortex*, which they took to an Ounce with the *Laudan.* at first every sixth or eighth Hour.

The Fever in the *Dysenteria* was just sensible by the Pulse. I prescrib'd Venesection to \mathfrak{z} xxx. then gave an Emetic of the *Radix* from \mathfrak{z} ij. to \mathfrak{z} j. This repeated once, or twice more ; or \mathfrak{z} j. of the *Cortex* did the Business.

But I repeated the bleeding in the first Distemper two or three times, if it did not cease after the Method I have spoke of, which succeeded well.

After this, we had a pretty many taken with the *Synochus Putris*, and some with the *Causus*.

I determin'd now to make Venesection in the lustiest and strongest Subjects (for most of the Sailors are young and strong) to \mathfrak{lb} iij. \mathfrak{z} iv. I did it at several times to the 4th once a Day, and prescrib'd the *Emet. Tart.* after the second Venesection.

Vesicatories were us'd if there was any sort of *Delirium*, although I was prejudic'd against them, because most of the Patients died, who had the greatest use of them in former Practice ; but these were no more the Cause of this want of Success, than Cathartics or Glysters were the Cause why Dr. *Sydenham* did not succeed in the Cure of the Comatous Fever, when he had cur'd Fevers of another Constitution of the Air very well, by the use of these Medicines.

For

For neither the Vesicatories nor the Cathartics were in the Fault in either Case, but it is plainly to be attributed to a much too small Evacuation by Venesection, as I hope will afterward appear.

The Success was even beyond my Expectation, which yet, I can assure you, was very great. Most of these Fevers went off by a *Crisis* in Sweating, which was so large, I had good Reason to believe it judicatory. And, which was well worth observing, several of these severe sharp Fevers left the Patients about the 9th, 10th, and 11th Day, and almost all by the 14th. Wherefore I did nothing else but ordered a proper Diet, according to *Hippocrates's* Admonition: *Quæ judicantur & judicata sunt perfectè, neque movere oportet, neque innovare, sive purgantibus sive aliis irritamentis, sed sinere.*

C H A P. II.

Of continual putrid Fevers, exquisite and more dangerous, generally with Exacerbation and Remission, and of their natural Determination, which was the second Experiment.

ABOUT the latter end of *July* and in *August*, there were many taken with a *Delirium*, and *Stupor*, or *Coma*, and some with the *Phrenitis* in their Fevers.

The Symptoms were in this manner : Generally they began with Cold and Heat like the Fit of an Ague, the Patient found his Body strangely heavy, that is, more weighty than ordinary, as if he was loaded with a great Number of wet Cloaths button'd strait to his Body ; a very considerable Weakness, or Diminution of his Strength ; a great Head-ach ; Pain in the Articulations near the Trunk of the Body, especially near the Vertebra's of the Back, and in the Shoulders ; a Soreness all over the Body, as if he had receiv'd blows with a Cane ; his Tongue either a little whiter than the natural Colour, and so much dryer, with but a small Thirst, or very dry, of a dark yellow Colour, with extraordinary Thirst, although this did not always follow. Sometimes also there was a small Difficulty of Breathing, which generally went off before the last Bleeding ; and
with

This fever in most of its symptoms resembles what was called the break-bone fever, vulgarly in Philad.

Of FEVERS, &c. 13

with these there was also the Loss of Appetite. Sometimes about the 5th Day, 7th, or after, came a sort of Lethargic *Stupor*, *Delirium*, or *Phrenitis*, which continued ordinarily to the end of the Fever, but the *Stupor* in some degree a few Days after the Fever was gone.

The Urine with the first of these Symptoms was something deeper colour'd than naturally ; when accompany'd with Difficulty of Breathing, it was intently red and thick, but without Sediment or scattering of an *Enæorema* ; and when attended with the *Stupor*, I found it thinner and paler, and when thick yet pale and crude.

About the beginning of the Symptoms the Pulse was somewhat depress'd ; and that Day or the next, as the Heat encreas'd, it became more frequent, rising to 80, 90, and sometimes upwards.

When the Difficulty of Breathing is present, the Pulse is not so frequent, but the Patient has a great Heat ; and when the *Stupor* followeth the first Symptoms, the Pulse is something harder, but may be sometimes as frequent as in the Fever attended only with the first Symptoms ; yet at other times it will be very little different from the natural, only there may be some more remarkable Inequality, and this happeneth ofteneſt when there are *Petechiæ* as well as a *Stupor*.

Though upon the first Accession of the Fever these Symptoms do shew themselves, yet they don't keep an exact Order ; sometimes the Head aches very little, at other times it acheth intolleurably ; sometimes the Bones (as they term it) don't pain them much, only they complain of a Stiffness, which causeth Uneasiness in moving them.

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themselves; sometimes in the first Days they are subject to Sweats, and often not at all; sometimes and ofteneft they find a Weight and Pressure on all their Body, something like a Load, which is the first Alarm; yet at other times a Coldness like the Paroxysm of an intermitting Fever seizeth them at once; and then the Heat and other Symptoms follow after. The first Fevers I met with, and of which I have shew'd the *Methodus Medendi*, were all of 'em the *Synochus putris primaria*, and continual; the latter with a *Delirium*, *Stupor*, *Phrenitis*, &c. had Exacerbations and Remissions daily, or once every second Day.

I found the same procatartic and material Cause in each, the Difference lying only in the greater or lesser Quantity of this, and the various Disposition of it, viz. according as the whole Mass of the circulating Fluids was affected, either with a greater Rarefaction or Cohesion; in which consisted the continent Cause, whereby they were also distinguished, and likewise when some part of the material Cause did lodge it self in a particular organic, or spermatic Part of the Body by a *metastasis*.

For Distinction, I will call the first Symptoms *primary*, or *diagnostic* Signs; and the others which sometimes supervene about the 5th, or 7th Days, or any time in the State of the Disease, such as *Delirium*, *Stupor*, (or *Coma*, according to Dr. Sydenham) *Phrenitis*, *Dysenteria*, *Diarrhoea*, I shall call καὶ ἐξοχλῶ *secondary* or *prognostic* Signs; because while we can't perfectly tell if some one of these won't succeed the others, we are not able to form our Prognostic of the Fever:

When

When this Fever has only the primary Symptoms, we may then venture to make our Prognostic about the 7th Day, (but after all the great Evacuations are over) that it will have the Signs of the *Crisis* before, or by the 14th Day, if duly treated in all other Respects.

But when the secondary Signs follow, there can be no determin'd time so exactly assign'd for the *Crisis*; for sometimes it may reach the 21st Day before the Signs appear any thing conspicuous, which lasts some Days, shewing it self by a *Nubecula*, an *Enæorema*, and then a sort of Sediment in the Urine, which very seldom can be call'd a true *Hypostasis*. From the very first Appearance of these, all the dangerous Symptoms remit; yet this great Symptom the *Stupor*, doth leave some Impression and small Disorder behind it for some Days.

I saw plainly by the sensible Evacuation of Sweat in the *Crisis* of several of the late Fevers mentioned, that some (as I could judge by their wet Linnen) beside 3 xl of Blood taken by Venesection, lost at least three Pounds more this way. From whence I found that such Venesection was the least that cou'd be indicated in such Fevers. But very rarely having observ'd any with the lightest Degree of *Stupor*, or *Phrenitis*, either go off by that *Crisis*, or in the usual time, wherein those that are absolutely acute do terminate; and finding some of these latter Patients die, the Evacuation of ℥ iij. 3 iv. this set me a thinking seriously, whether I should venture even still upon an higher Evacuation, notwithstanding what the *Britannic Hippocrates* has said to the contrary. When I consulted old *Hippocrates* and *Galen*, I thought they both cer-
tainly

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tainly ordered me to do it. For the Precept is the same with the one and the other, viz. *εἰς λεπθοθυμίαν*.

Hippocrates says ;

Τὰ χαρέοντα μὴ τῷ πλήθει τεκμαίρεσθαι, ἀλλ' ὡς ἂν χαρέῃ οἷα δέῃ, καὶ φέρεται διόρθως. καὶ ὅπως δέῃ μέχει λεπθοθυμίας ἀγεῖν, καὶ τὴν τοιούτην, ὡς ἐξακρίσσει ὁ νοσέων.

Quæ prodeunt non copiâ sunt æstimanda, sed si prodeant, qualia oportet, & facillè ferat. Et ubi ad animi deliquium ducere oportet, hoc etiam faciendum, si æger sufficiat.

Galen, Lib. 9. Method. c. 4. discoursing upon this Head, says, *Atq; eo remedio nemo inveniat quod vel ipsis ægris, vel naturæ animal gubernanti jucundius vel utilius sit.*

As for *Galen*, I could not but entertain a great Esteem of him, for the many Excellencies which appear thro' his Works, particularly in his Book *De affectuum incognitorum notitia*. To mention one Instance: When he was call'd to visit a sick Man, *Glaucus* the Philosopher being also with him, who was wont to impugn stiffly the Certainty of the Medical Art, with what Accuracy did he discover the Distemper? With what a Presence of Mind did he improve the Opportunity offer'd? With what Address and Politeness did he convince this shrewd Man of his Prejudice and Errour? Telling him in a Moment, without asking the Physician in ordinary a Question, that he had mistaken the Distemper, and immediately what the Distemper really was, without making the least Enquiry, either of the Ordinary or the Patient. It appear'd indeed under another Shape; his first Physician was treating him for a *Pleurisy*, when it was really an *Icterus notus*,

When

When again I consider'd his advising *V. S.* in the *Synochus biliosa exquisita, ad Lipothymiam* (*De curand. rat. per Venæsectionem cap. 14.* where he mentions an Emission of Blood to ℥vj.) I thought he was likewise more to be depended on, with respect to the Number of Years, which both he and all those of the Profession had in that Distance of time betwixt him and *Hippocrates*, to establish, or at least to improve what *Hippocrates* had before deliver'd as a Precept. But then I found this Objection against me; that he could not mean by *Lipothymia*, such a Quantity of Blood, as I propos'd to be necessary on the present Occasion. For the Ancients were often disputing it, and for ought I could find, *Sub Judice adhuc lis est.*

Aretæus indeed, I think, is more express in this Matter, who, by the general Opinion of the Learned, liv'd before him; and yet *Galen* does not mention him in all his Books. But it is apparent enough, that *Galen* is sometimes justly censurable, for his Affectation of Praise by unjustifiable Means. As when he says, that all other Physicians before him, were frequently embarrass'd, and as often mistook the right Indications of Cure, and that he had brought the Art to its last Perfection; that without his *Commentaries*, it was hardly possible to understand *Hippocrates*; and that *Hippocrates* had not observ'd the Signs which are to be taken from the different *Pulses*, nor sufficiently distinguished Fevers. All which being frivolous, seem by depreciating him, to have been design'd only to establish his own Credit. In fine, if his Principles were not found (not to mention many Instances which are too evident) as may be seen in that Particular,

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lar, of his exposing his Mother's Infirmities to all the World; yet I concluded that his passing by in Silence another Rival indeed, though not so celebrated as *Hippocrates*, did not lessen his Merit.

Aretæus, in the Cure of several Distempers, is very particular: For Instance; in a vomiting of Blood, let the Cause be how it will, he adviseth large Phlebotomy; that the Section of the Vein of the Arm should be large, and besides this, to use all other proper means, to hinder the sides of the Orifice to grow together, that we may be able with more Ease to draw off more Blood still from the same Orifice at several Repetitions. He says, we ought to take but little at a time, but we may repeat it the same Day, and the Day following, and also the third and fourth Day, if the Patient be not too weak.

In the Cure of the *καὶ σφ* Febris, he also prescribes *V. f.* by which in the Space of some Days we should take away a large Quantity of Blood. And treating of the Cure of the *Quinsey*, he orders; *Τάμνειν ολεθεῖσιν ἐπ' ἀγκῶνι μέζονα ὅ τινι τομῇ χάζειν, ὅπως ροιζήσῃ ἢ ὅ ἀθρόον ῥέῃ τὸ αἷμα.* "Ο, δὲ ῥῶς ἱκανὸς μὴ ὥς ἥμισυ δερμασίην περὶναι, δυνατὸς δ' ἀγκῶνιν λῦσαι, καὶ πάντα μειῶσαι. 'Οξ. νέσ. δερμα. εἰλ. πρῶτ. κ. ζ. that is, To open a Vein in the Arm, and make a large Orifice, that the Blood may run with Force, and plentifully: Because a sufficient Emission, as it will not contribute a little towards mitigating the Heat, so it will dissolve the Strangulation, and diminish all the other Symptoms. —

How near does this time strange action come to Spasm, is it not the same thing meant by it? — I found a pretty good Agreement among Authors for large *V. f.* that it should be done at different times, once, twice, thrice, on the same

same or the next Day, for so they deduce better, says *Trallian*, the material Cause from the Places affected.

After these Reflections, I began to think of Perspiration, how *Sanctorius* has prov'd, beyond Contradiction, that if a Man eats and drinks in one Day to ℥ viij. the insensible Perspiration will rise to ℥ v. that is, in the Space of a natural Day.

Bellini that most famous Physician, *Prop. xi. de Sanguinis missione*, gives us two ways how to find out the due Quantity of Blood, that may be taken away in Cases of the greatest Extremity where it is indicated. 1. *Dato maximo tempore, quo quis in statu naturali, sine alimenti assumptione, absque virium lesione, vivere potest; invenire maximam quantitatem sanguinis, quæ in statu naturali sine virium lesione, mitti potest.* 2. *Data maximâ quantitate perspirationis, quæ in statu naturali singulis diebus fit; invenire maximam quantitatem sanguinis, quæ in statu naturali mitti potest.* And here, when he has just shown us the way, he leaves us every one to our own peculiar Genius and Industry, to find out the Ways and Means to establish it. *Bellin. de urin. & pulsib.*

However I think it is about the beginning of *Prop. ix.* where arguing closely about *V. s. ad Lipothymiam*, in such Cases as we now speak of, he puts this Question: Suppose, says he, we should take away more Blood than is enough, what then? Why the Consequence wou'd be, less Blood wou'd be carry'd by the Arteries to the Brain, a less Quantity of Spirits wou'd be secerned, the Systole of the Heart, and the Vibration must be diminished. And what then? Why the Moment of the Pressure of the Blood
by

by the sides of the Arteries on the Meninges and Brain would be reduc'd, and the Strangulation and Inflammation would cease, and the Powers of the Arteries would again be restor'd, &c.

Then I concluded from the Cure of dangerous Fevers by large Hemorrhagies which I had seen, where small Venesection had only been made.

From the same, observed by practical Authors, and of those who suffer'd Hemorrhagies, more than double any Quantity of Matter, that can pass insensibly in a natural Condition, by the highest Perspiration, and yet notwithstanding all this recover'd very well.

From the Evacuations I had observ'd in the late Fevers, after pretty large Venesection, which together certainly amounted to more than the Quantity of the highest Perspiration.

From the Experience of excellent Men, such as *Aretæus*, who, 'tis very probable, did on some Occasions let Blood answering that Quantity.

From the Opinion of so great a Judge as *Belini*, that with the greatest Indications for Venesection we might well do it, and safe enough, not exceeding that Quantity.

Then to fix upon the Means to bring this fairly to a Trial, I suppos'd that the larger sized Men, not reckoning those who are very fat, but in a middle State, (*habitu athletico* as we say) must be the Men who have this Perspiration, otherwise they cou'd not grow bigger and stronger than others, and remain healthful.

Wherefore the Quantity being given for the large siz'd Men, I determin'd the Proportions for those of lesser sizes.

More-

Moreover I was the more encouraged to this Enquiry, because the excellent Dr. Sydenham had observed, that several of his young Patients under the Comatous Fever, after all that long time spent, in attending Nature's own Method, till the 28th and 30th Day, fell into Consumptions; but this was not our Case, for most of them dy'd.

The Fevers, with a *Stupor* and *Phrenitis*, &c. coming on a pace in the Month of *August*, when I found a Patient of the first and largest Size of the People of our Ship, and not yet in the declining part of his Life; who I suspected, by the intenseness of the other Symptoms, would likewise be seized with the *Stupor* or *Phrenitis*, to compleat the Number; I began the Evacuations on the second Day, and ordered *V. S.* to ℥ x. to be made every Morning about seven or eight a Clock successively, till the eighth of the Distemper; on which Day, no Evacuation of any kind was attempted, two of the greatest having been made the Day before, bleeding in the Morning, which was the last time, and an *Emet.* of *Tart.* to *Gr. v.* (which I have found strong enough for any Man, if the Preparation is good) which I thought best for our present Purpose, being quicker and stronger than the *Radix*, and yet not so violent, nor uncertain in the manner of its Operation, as the *Vin. benedictum*.

All this time emollient Glysters every other Day were made use of, and Juleps, as the stock of our *Materia Medica* would allow, viz. *R. Aq. bord. ℥ viij. pulv. radiant. part. ostreor. ℥ jβ. Aq. epidem. Syrup. Limon. ana ℥ j. cujus capiat 4. aut 6. coctlear. quater in die.*

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On the eighth Day, first in the Morning, I order'd a large Vesicatory to be apply'd on the Neck, and between the Shoulders; and on the ninth, one on each Ankle, or Wrist, twenty four hours after. At the same time I prescrib'd *Aq. Lact.* as far as it went, as,

R. Aq. Lact. alexit. bord. ana ʒvj. pulv. è chel. comp. ostreor. ppt. ana ʒj. Aq. theriacal. ʒß. Aq. epidem. Syrup. Caryophyllor. Limon. ana ʒvj. Ms. f. s. a. Julap. cujus (concutiendo phialam) sumat Cochl. v. vel. vj. quartâ quaq; horâ.

Or else a Powder of this kind,

R. Pulv. è chel. comp. oculor. cancr. ppt. Rad: serpentar. Virgin. ana ʒj. sal. prunell. ʒß. castor. gr. xij. Divid. in iij. partes æquales. Quarum unam Capiat octavâ quaq; horâ ex cochl. j. Syr. Caryophyllor. limon. ana part. equal. superbibendo julap. prioris (sed sine conchis ostreor. & pulv. è chel.) cochl. vj.

About the eleventh, the heat and unquietness of the Body seem'd to be diminished, yet the *Stupor* remain'd much the same till the fourteenth, at which time I cou'd see some small white spots, here and there, where the *Nubecula* takes its place in the Urine, which seem'd better saturated with its Contents than before, tho' of no very deep colour. Wherefore on the fifteenth without more loss of time, I prescrib'd a Cathartic Potion.

R.

R. *Tamarindor.* ℥ β. *sennæ* benè olent. ℥ ij. *rad.*
rhei elect. ℥ j β. *Coq. in Aq. Font. q. s. s. A. in*
colaturæ ℥ iiij. *dissolv. Manna, Syrup. rosar.*
solutiv. ana ℥ j. *Mf. f. j. A. Potio. Or,*

R. *Polypod. querc.* ℥ i β. *Coq. in Aq. Font. q. s. cum*
cremor. tartar. pulver. ℥ iiij. *Dein adde Rha-*
barb. incis. ℥ j. *sennæ.* ℥ ij. *flor. roris Mariæ, ro-*
sar. rubr. viol. ana ℥ j. *Colaturæ* ℥ iiij. *adde Syrup.*
è spin. cervin. Rosar. solutiv. ana ℥ β. *Mf. f.*
Potio.

But in this Case I never found any thing better than the *Pulv. Cornach. à* ℥ ij. *ad* ℥ j. given in *Aq. bord. vin. alb. ana* ℥ ij.

These were repeated once, twice or thrice, according as I saw the Pathognomonic Sign declining, with its Concomitants, which I cou'd perceive the next day generally after the first Cathartic, but more distinctly by the *Enæorema* of the Urine.

On the seventeenth Day I us'd to prescribe the Cathartic again, for even the *Pulv. Cornach.* purgeth but little, the Sick of this Distemper being generally difficult to be purged.

About the twentieth I prescribe a Repetition of it, which is the third time, and usually the Fever and Symptoms are apparently less'n'd that Evening, and I give such an *Haustus.*

R. *Aq. Lact. alexit. bord. ana* ℥ i β. *cinamom.*
fort. ℥ ij. *Diacod.* ℥ β. *Laudan. liquid. gtt.*
xij. Mf. f. Julap. paregoric.

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On the twenty first the *Stupor* is gone, and the Patient will answer pertinently to any Question, only he is as yet something dull and drowsie, but after repeating the Cathartic the third time, (which should be done the twenty fourth, or twenty fifth Day) the Patient's Head is usually clear again, only he's weak, so he may continue some Days in Bed. After the first Cathartic I give some Paregoric *Hauftus*, as the Syrup, but without the *Laudanum*, every Night. If the Patient don't recover his Stomach, I purge him with the *Decoct. amar. purg.* and after make him drink two Bottles or more of, the following Decoction.

R. Cort. Peruv. pulv. ℥ ij. Coq. in Aq. Font. ℔ ij. ad medietatem ; coletur & repetatur Decoction ad duas vices, & toties colationes, quæ simul confandantur & reponantur frigida jam, in Vase Vitrio probe obturato : Cujus bibat. ℥ iiij. quater in die horis medicinalibus cum regimine debito.
If the Patient's Stomach is very weak, I add Wine to each Dose.

Seeing the lustiest Men now ran no more hazard of their Lives than any other, who were usually taken with this Fever, nor indeed so much, in the beginning of *September*, I resolved, after all the Phlebotomy was done in these Fevers, to try the Cathartic sooner ; wherefore I began on the ninth or tenth Day, and repeated it sometimes on the eleventh, and sometimes on the twelfth, *pro re nata*, &c. I found this generally to answer better, for the Fever and great Symptom vanished four or five Days sooner.

By

By Experience therefore having found this to be the true *Methodus Medendi*, I come to tell why I think from the preceding Discourse, that the Vomit cannot be safely given, before *Phlebotomy* is over, or at least just before the last Bleeding.

The success sheweth, that this great Evacuation is necessary, and there is a *παραγγ. ad Vasa*, wherefore the Emetic before might do harm, as we have observ'd, and is hinted by Dr. Sydenham; but at this time (*hoc maximo vitio tanquam causa materiali sublato. & cum ea continente equidem inferi collocata*) the Disease is not to be farther regarded, with the furious aspect of an Inflammatory; all the Blood Vessels and Membranes of the Body, now recovering their Spring; and consequently tho' they have not quite, yet they are capable to obey the quick *Stimulus* in the Ventricle from the Emetic.

And as the *Ventricle* receives the Nerves of the eighth Pair, which are principally spent upon the second proper and inferior Coat, which form a *Plexus* at its superior Orifice; it receives besides Nerves from the *Plexus Hepaticus* and *Intercostalis*, which make it all up as it were of Nerves, and therefore must be extreamly sensible. And we see that when the Stomach has any grievous Sensation, the Brain is affected likewise, and so on the contrary.

We find plainly, that all the Nerves of the Body have a most instantaneous Communication. If a Person only gives his Finger a small cut, the *Membrana Communis Musculorum*, and all the Membranes in the Interstices of the Muscles, do immediately contract themselves, to shew their Consent, and this is repeated sever-

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ral times, by tensive Contortions; so that we may even find this Perturbation in our very Back.

How much then must be the consent over the whole Body, when so great a Muscle, so principal and noble a part as the Stomach, is smartly stimulated, in several parts of the second proper Coat, by the Particles of an Emetic? All the Muscles of the Body must have a shake and strong Succussion, and the Contractions of the Membranes being valid, and repeated according to the Motions of the Stomach, even the Meninges themselves must contract, with quick Spasmodic Motions: so that this Contraction of the Brain may as well cause an attraction of all the sensible Parts, more especially in the superior parts of the Body, by the Nerves, which it sends to the Stomach more toward it self, as the Source and Fountain from whence all these flow. And therefore it is no wonder we should vomit, and that all the Blood Vessels and Percolatories, both within the Muscles, and the Membranes of the whole Body, should receive so many violent and appropriated Pressures and Contortions, which are perfectly adapted to their several Figures, Magnitudes, Situations and Proportions, whereby it must necessarily follow, that the Mass within them must be jumbled, mingled, and comminuted, and viscous Lymph stagnating in a manner in some of the Capillary Glands, will be forcibly squeez'd out into the larger recipient Vessels, and the whole Mass of Blood must altogether receive a *fluor*, and be *attenuated*, whereby more Spirits will be secreted, the Pulse will grow gradually greater, and the Circulation

tion approach nearer to the Natural ; from whence must follow a Separation of any superfluous Lymph, and chylous Particles, which last do ordinarily pass off by Urine, &c. tho' not in that quantity as in other Fevers, where the Brain has not been hurt but in proportion with the other parts of the Body.

When I begin the use of the Cathartics on the ninth or tenth Day, then I order the Powders, and the use of the first Julep on the Days betwixt the Purges, but no Paregorics, except that Day the Patient takes the Purge, till there is a manifest remission of the Fever and Symptom, and then it does the Patient no small Service ; for making him sleep well at Night, Nature is stronger after so long a Truce, and the Blood now is more able to contract it self, and perfect the business of Despumation.

As to the *Phrenitis*, it may possibly be carry'd off with the Fever it belongs to in Children and Youth, according to the Indications and *Methodus Medendi*, prescrib'd by Dr. Sydenham in his Chapter of the *Comatose Fever* ; but I am sure I saw so many grown People, especially those who had accusom'd themselves to the liberal use of spiritous Liquors miscarry, that it induc'd me to try this way, which I always found to answer much more certainly, and can be depended on for an equal Success, as when we are treating a *Synochus Putris*, only with or without a light degree of *delirium*.

Therefore I begin with the Evacuations, on the second Day of the Fever as before, only here especially, it does excellently well to make the first three Evacuations, or two at least, from the Veins of the Ankle or Foot, where if the

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Surgeon is oblig'd to take the Help of hot Water, when it is cold, the Blood must be collected carefully, that we may know what Quantity is wanting to be farther taken, and then it must be either weigh'd or measur'd, whereby Revulsion is made from the Head, and the Velocity of the Blood is increas'd to the lower Extremities of the Body, and so during this time, the Brain has some truce from the Pressure, as well as the scorching Heat.

And it is to be noted, that undoubted Experience has put it beyond dispute, that the Patient bears great Evacuations from these Parts, much easier than from the *Arms*, or nearer the Heart.

This does altogether as well in the *Stupor* Symptom, altho' sometimes, to save trouble, I confess I had only the Evacuations made from the Arm, which answer very well also, especially when taken day after day. I order the first Orifice to be made of the middle Size, so as the Blood may run in a full Stream; and when that is done, and the Arm dry'd, then a small Pledget of Lint, spread or arm'd with fresh *Axung. Porcin.* to be apply'd to the Wound, and over it the Bolster to be ty'd on by the Bandage. The next time of Bleeding there is no more to do, than to tie up the Arm as before with the Ligature, and wipe the unctuous Matter off, and then to take the Orifice betwixt the Finger and Thumb, together with the Vein, giving it an hard Pinch, and contorting your Hand a little at the same time. As this seldom fails, yet the Surgeon must have a small Probe ready, whose End must not exceed the Bigness of the Head of a small Pin; so that if the Blood

should

should not flow forth after the first Trial, then he must put in the End of the Probe, which ought to be of Silver or Gold; and when in the Vein, he must move it gently from one End of the Wound to the other, and then the Business can't miss. This (it is probable) was the way made use of by *Aretæus*; and by it you save great Trouble to the Patient, neither can the Surgeon always make so good an Apertion, as he can readily do at the first and second time.

This is also to be carefully observed, if after any Bleeding the Symptom remitteth, that we may omit one time, to see if it will make a fresh Attack; and then if four Bleedings are over, we may venture to stop, and so treat the Fever as solitary, according as the Symptoms are intense or mild. However one Bleeding more, after the *Phrenitis* abates, will secure both the Command of the Fever, and it together; and this is the safest way. And if the *Phrenitis* or *Delirium*, after so many Evacuations, should leave no Tract behind 'em, we must not give any Cathartic before the 14th Day; but Vesicatories must not be neglected, unless the Fever is remitted, and we see an *Enæorema* or *Hypostasis* in the Urine; or that it should have a Crisis by Sweat, which rarely falls out after the Head has been severely hurt.

At this time the Purges are to be us'd, as in the other case, twice or thrice; and if there be not a full colour'd Urine, with a good *Hypostasis* at last, we may either give the Decoction of the *Cortex*, as in the other Case, and in a Week after repeat it again, or give from one to ʒjß in Substance, and repeat it after the same manner. Only it is better to give before the
Repe-

Repetition of the *Cortex*, one of the purging Potions. And now we may rest secure both of the Patient's Health and our own Credit.

Decoct. Hord. made grateful to the Taste with Spirit of Vitriol and Syrup of Lemon, or Sugar, was in this the best ordinary Drink for the Patient, when I did not purge him till the 14th Day, and at this time it is no more needful.

But if the *Phrenitis* is obstinate, we must not cease the great Evacuations, till we rise as high in the Quantity taken as in the *Stupor*, and then the Emetic is safely given; after which we apply Vesicatories to the *Nucha*, and in 24 Hours after to the Ankles, and so again to the Wrists.

On the 2^d Day after the Use of the Vesicatories, I us'd to give one of the Cathartic Potions, and so repeat it, as I said, in the *Stupor*. In this case for ordinary Drink I either gave the *Decoct. Hord.* acidulated and made grateful as before, as much as the Patient has an Inclination to drink, or the *Decoct. Lusitanic.* or the *Infus. Rosat.* with the *Gl. Sulph. per Camp.* on the Days betwixt the Cathartics, as far as our Stock wou'd reach; and then I was forc'd to content my self sometimes with the *Decoct.* alone, or with a due Proportion of White Wine Vinegar.

N. B. All the Chymical Acid Oils or Spirits must be carefully added in so small proportion, as they may be but in the least perceptible by the Tongue.

Now I saw perfectly my Error and Prejudice against the Use of Vesicatories; for my want of Success, when they were us'd formerly in these Fevers, was not owing to them, but to the preceding Evacuations not being made in due quantity. And

And Dr. Sydenham's Mistake lay here also, for his Cathartics wanted Success on the same account.

These were our *Formulae præscribendi* when at Sea, where many other Advantages of treating the Patient according to all the Rules the Art requires, can't take place, because it often falls out, that it is impossible they can be comply'd with. But when ashore and in any City, all may be fully answered; and besides, not being stinted in the *Materia Medica*, we can never want the necessary Variety, as well for the well Management of the Patient, as the Ornament of our Forms. But to speak the truth, we must acknowledge, that the Defect here does often fall out in the *Dietetic Part*, and this often too is impossible to be supply'd.

C H A P. III.

*The third Experiment grounded on
the highest Perspiration.*

WHILE we are at Sea, in the hot Countries, we seldom have intermittent Fevers in the Summer, till the Weather begins to grow manifestly colder in the Mornings and Evenings, about the End of Autumn; neither did I ever find many of 'em. And it is so at *Lisbon*; for I observed all the time I was there, that we scarce had an intermittent Fever among us in the Summer, unless they were sent down to us from *Alemtejo*; that Country having much Depth and Moisture in the Land, which makes it one of the best Provinces for Corn, if not the best of the whole Kingdom. It is well water'd with pleasant Rivers, which are Branches of the *Guadiana* and the *Ensharama*, very considerable ones, which make the Farmers richer and more polite here than in any part of *Portugal*; but they have Agues often epidemic, and always endemic.

When our Army, or any part of it, lieth there any time, we have several of the Officers sent down to us at *Lisbon*, for their Cures of intermitting Fevers, which are troublesome, because the Patients let the Distemper run on a long time there, till the Blood is become almost effete, and their Bodies emaciated considerably; so that often the *Tertians* and
Quartans

Quartans are doubled, or the Distemper appears under no regular Form.

But to return to our former Subject of those continual Fevers we have treated of: As soon as I cou'd conveniently ashore (according to my *Postulatum*, taken from People of the large Size, and the lesser ones deduc'd from this) I got People of all Sizes to weigh themselves, and found the Proportions as follow.

Those who were of the largest Size of our Men aboard the Ship, (by which I don't mean tall Men simply as such, but either tall or well set Men tho' shorter, who with such Dimensions enjoy Health and Strength proportionably, till it be accidentally interrupted either by some Error of the *Non-naturals*, or other Accidents, humane Bodies are subjected to) when weigh'd, proved to make about 200 Pounds *Troy* Weight Neat. The Middle Size (of which I am one my self when in Health) being weighed, produc'd 150 Pounds *Troy*. The third Size weighed 100 Pounds.

As I had learned only from the Vulgar at first, so as I grew an older Practitioner, I saw it to be but too true, that the lustiest, strongest, best proportion'd, and well complexion'd of all sorts, but especially the sanguine, were the ordinary *Victims* to the acute Distempers, of which we have treated. This determin'd me to cast about every way, and employ all my Faculties by constant Reflection upon what I could learn, from Authors in the Medical-Art, Conversation, and what I had observ'd in my Practice for many Years; which at last brought my Reflection on the highest *Perspiration*, to center here in this Size of Mankind.

After

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After my Voyage in the Year 1704. I settled at *Lisbon*, the Metropolis of *Portugal*, where I practis'd *Physic* and *Chyrurgery*, but especially the former.

In this Place I remain'd near six Years, from the beginning of 1704. till the Year 1710. where I had many Patients of all these Sizes of Men in the Diseases mentioned; and I found farther by undoubted Experience, that those of the first Size could not only bear the Evacuations to lx. but sometimes it was necessary to carry it to $\frac{3}{4}$ lxx.

But here I met with another Size not so ordinary, (however there were not wanting enough to confirm our Practice and Experience) that weigh'd about 250 Pounds *Troy*.

The Fevers of such of this Size of 250 Pound Weight as fell under my Practice, were determin'd indeed by the Evacuation to $\frac{3}{4}$ lxx, tho' I am confident these very Persons may have the same Fevers, where the Evacuation must necessarily be augmented to $\frac{3}{4}$ lxxx. And upon the same Principles, should they fall under my Care, and the Fever and secondary Symptom indicate, I would no more scruple to do it, than if I had done it an hundred times.

For if $\frac{3}{4}$ lx. are but a necessary Evacuation for one weighing 200 Pound ordinarily in such Fevers, nay, and in some Cases, the Evacuation to $\frac{3}{4}$ lxx. may not only be made, but is absolutely needful, which I have put past Contradiction by sufficient Experience; and if $\frac{3}{4}$ lxx. are but an ordinary Evacuation for those of 250 Pounds, the Fevers of such with the Aggravation of the Symptoms will require $\frac{3}{4}$ lxxx.

And

And still I must own, I am satisfy'd there is a fifth Size of Men, who weigh about 300 lb Troy-Weight. By the same Principle, therefore, their ordinary Evacuation in these Fevers is $\frac{3}{4}$ lxxx. and the highest xc.

But because there are certainly Men who weigh much more than they again, but very few, and they are all to be reduc'd to the same Rule; we will look upon these two last as Exceptions from the ordinary Rule of Nature.

Therefore, to avoid Confusion, I have reduc'd all the several Sizes of Men to four, which I call the four *Cardinal* Sizes. The first is of those weighing 250 lb. the second of 200. the third of 150. and the fourth of 100.

By the same Rule, which shew'd the ordinary Evacuation necessary in Fevers for the Cardinal Size of 200 lb. to be $\frac{3}{4}$ lx. and the extraordinary lxx. &c. it will follow proportionally that the extraordinary Evacuation needful for those of 150 must be to lx. and the ordinary to l. And again, that the extraordinary one for those of 100 lb. will be $\frac{3}{4}$ l. and the ordinary about xl.

I wou'd not be understood as if I meant the Patients of those Sizes, which I call Cardinal, must weigh precisely so much, neither more nor less; for if they weigh within 8 or 10 Pounds, or more, either over or under, I reduce 'em to one of the nearest Cardinal Numbers. So that if it should happen that the Patient should weigh 120 or 124, I reduce him to the lowest Cardinal Size, viz. of 100 lb; and if he should weigh 126, but one above the middle Num-
ber,

ber, I reduce him for the same reason to the next superiour Cardinal Number, viz. 150. But then I give some Allowance in this last Case, where the Patient weighs 126 lb. or 130. For supposing the Fever, with the *Stupor* or *Phrenitis*, is very intense, the extraordinary Evacuation may either remain at 3. 1, or be carried 5 or 6 higher, with Safety.

For I have experienc'd that when the great Evacuations are us'd, if I come within 5 or 6 3 of the Quantity requir'd, it makes no remarkable Difference in the Cure of these Cardinal Sizes.

Any Man who useth himself but a very small time to weigh these Cardinal Sizes, will, upon Sight, be able to guess within 8 or 10 lb over or under, which makes no Difference with adult People.

I have not calculated any Sizes below that of 100 lb. but if you weigh Children, but of about 50, 60, 70 lb weight, with a little Use, you'll easily guess near the true Weight, in which to be very exact, is not necessary. Neither are these Proportions absolutely necessary for Children; a considerable less often does the Turn. The Reason of which, as I take it, is, because while they are growing, their Blood has not that Degree of Defecation and Spiritousness as that of the Adult. And these Calculations are adapted principally to the Adult, after they begin to drink Wine, strong Ale, &c. For the Blood of all such People has undoubtedly a greater Cohesion, because we see, while in the vigorous Part of their Age, they are more subject to Rheumatisms, the *Colica biliosa* and *Paralysis particularis*, which the *Asiatic* Moors

Môors call the *Berry* or *Barbiers*; the former of the two last is most usual in the *West-Indies*, and the last in the Oriental Parts, but common enough in all hot Countries; within the Tropics, nay sometimes in the Latitudes of *Spain* and *Portugal*, especially the *Colica biliosa*, which resembleth the *Passio Iliaca*. I have known both of'em in *Portugal* afflict as well our own Natives, as other Strangers of differing Nations, (who have been too indulgent to themselves and Company-keepers) from an undue and too free an use of these spiritous Liquors. Neither do I doubt but they both may be found sometimes within our own Realms, from the same evident Causes. I have seen the *Colica biliosa* more than two or three times, and once, I think, that *Paralysis*, tho' I won't be positive, because the Patient was under the Care of another, and it is a long time ago, when I was not so competent a Judge of the matter. And as for *Rheumatisms*, daily Practice puts it beyond all doubt.

And yet for all this, neither the adult, by whom I mean those above one and twenty, to forty, ordinarily, nay many times to sixty Years old, and upward, provided they are well Muscl'd (whether they live in City or Country) and scarce drink any thing stronger than small Beer, for the necessary Circulation of the Chyle and Nourishment of the Body; and the Declination of the Age be not very visible; nor Children, by whom I mean Boys and Girls, from seven Years old to Puberty, provided they are well flesh'd, or muscl'd; and much less the intermediate Age of Youth from that to twenty one; none of these, I say, are

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directly excepted, from the Proportion assigned by this our *Criterion* of Evacuation. If there be any doubt, 'tis with respect to Children, because I have not had such a number of those Patients as of the Adult, to determine the certainty of my Theory by Practice, in reference to them.

Yet let us suppose a Child of ten Years old, pretty well muscl'd, and weighing lb lxxx. taken with a Pleurisie or a Suffocative *Angina*: I believe a Man who understands only modern Physic, and remembers that Dr. Sydenham prescribes an Evacuation of ℥ xxviij. besides twelve Cathartics, to one whom we may reasonably suppose was about this Age, and perhaps Weight, in the space of a Month's time, for the Distemper call'd *Chorea sancti Viti*, would not scruple taking away ℥ vij. more after three Evacuations, two made the second Day when this Strangulation first threaten'd, and one the first Day, when the Symptom was not so urgent, each being ℥ vij. if he saw the third Morning that the Symptom rather threaten'd Death than yielded to the Evacuations already made. For there is certain Death prognosticated if the Symptom yield not quickly, and there is no more reason to think now that it should yield the next twelve hours, than it had done the twelve before. Nay by the supposition the Distemper had not yet acquir'd the State, since the Patient is incapable to be reliev'd by any Cathartic because he can't swallow.

I have observed, as I said before, that where the great Evacuations become needful, if we come so near to the quantity demanded, as to fall short only five or six Ounces, that scarce ever ruins the Patient.

And

And besides the Distemper *Chorea Sancti Viti*, is not evidently of the Inflammatory kind, and our Case one of the greatest that falls under the Judgment of the Physician, where the increase of the *Moles* of the circulating Mass must be likewise greatest. And altho' we might, according to the Canon, if the Patient was adult, raise the Evacuation still higher; yet in Consideration that the Blood of Children is not so rich and spiritous, not being yet defecated while in the state of Growing, like Wine in fining it self, we may remain still much more secure with an under-Evacuation.

I know it may be objected, that what I have said is not grounded upon the highest Perspiration, because I carry V. S. far beyond that. But I answer first, that this does not follow, for there is no doubt but those of the Cardinal Size 200 lb, may, and do often digest and concoct at least lb viij. of Aliments in a Day; and consequently the Perspiration, according to *Sanctorius*, must in the space of a natural Day arise to lb v. at least naturally.

Suppose those again of the excessive Size of 300 lb do take lb xii. of Aliments in the space of a Day, according to *Sanctorius*, the natural Perspiration will be about 3xc. and so it must be proportionably with all the rest of the excessive Sizes, which are excepted from the last general Rule of Nature, or the first Cardinal Size.

But still, when I call those the general Rules of Nature, it is restrained to the *Europeans*, and particularly to those of her Majesty's Realms, for I am convinc'd by sight that the first Cardinal Size among the *African Moors*, and even

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among the *Hotontotes*, who are a barbarous Nation, and seldom eat any thing but the Product of the Earth, and drink of the River, is our first excessive Size, viz. 300 Weight; and this for a very good reason, because none of 'em are accustomed to spiritous Liquors, nay they drink none at all. And that this is a true reason of their being a larger, stronger, and to the full as long liv'd as our temperate People, might be very clearly demonstrated, if that was my present business.

Lastly, I answer in the Words of the sagacious Dr. Sydenham: *Et profectò nemo sapiens, cui tam hominum quam rerum natura satis est perspecta, in iis, quæ meræ speculationes sunt, nullo autem experimento certo determinari queant, in cujusvis Mortalis verba, quantuscunque is demum fuerit, facile juraverit. Scheda monitor. fol. antepenult.* But where Experience confirms Reasoning, this ends all Dispute, or at least it ought; for all I have advanced, is grounded on solid and establish'd Practice, and therefore I shall proceed to shew what other Fevers and Distempers this Doctrine will extend to; and add a few Histories of Patients.

C H A P. IV.

A division of Fevers into various Kinds, to which I think any other Species may be refer'd, which I have not nam'd, nor are to be found in the other Table in the 7th Chapter, such as Lipyria, Epiala, Miliaris, &c. With the fourth Experiment in Intermitting Fevers, and an Explication of Malignity, commonly judg'd from Petechiæ, or purple or brown Spots : Together with an Observation, in Cases depending on Inanition, as their conjunct Cause.

I Shall here first shew the Notion of Fevers as we have it from the Ancients. I find then all Fevers are by them rank'd into two general Classes, *συνόχοι πυρετοὶ* and *συνεχεῖς*.

The former comprehend all those Fevers *per eminentiam*, which from the time of their first Accession are by one constant Circuit, without Exacerbation, brought to their *ἀπυρεσίαν*.

The latter denote as well those Fevers, which by one Circuit, (altho' admitting sometimes Exacerbation of the Pathognomonic Signs, and as often remission of the same) are brought at

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last, tho' more tediously to their ἀπυρεξίαν ; as such, which by many renewed Circuits and ἀπυρεξίαι, are at last determin'd ; so that the Intermittents are here included also. But afterwards in later times those last were reckon'd a distinct Class.

But the most proper Differences are taken indeed, *ab inbarentiâ in subjecto, & causâ ejusdem inbarentiæ*, and are divided into three, viz. πυρετοὶ ἰσχυροί, σαπνοὶ and ἐκλυκοί ; and the reason of this Division seems to have been this, that some Fevers have the *Causa Materialis* in the Mass of Blood, or the Fluids, and others only, or mostly, in the Solids or Organic and Spermatie Parts. This last is foreign to our present Discourse, and as to the other, which arise from the *Vitia* of the circulating Mass and Spirits, as they err in quantity and quality, they are divided first into the *Febres Ephemeræ*, to which the *Sine Putredine* do belong, and next the *Febres Putridæ*. These again are divided into *Febres primariæ*, which are not the Consequents and Effects of other Fevers, but depend upon their own Cause ; and the *Secundariæ* or *Symptomatiæ*, which arise sometimes from external Causes, as from Burning, a Wound, extravasated Blood, either pure or with the *lymphæ & serum*, Fistula, Ulcer, undigested Milk stagnating in the *Lacteals* of Infants ; or some Particles of the Chyle in elder People, unduly coalescing, then stagnating in the Glands of the *Mesentery*, or some Particles in the Liquors to be secreted in the *Viscera*, stagnating there, especially in the *Liver, Pancreas, Spleen, &c.* which being deposited there, make Tumours sometimes only in some lesser Parts of them, (the greatest

greatest Part being scarce able to perform their Secretions) which is the Basis of Pertinacious Obstructions, that may and do produce those Fevers call'd *Lentæ*.

But the Ancients were generally mistaken about Symptomatic Fevers, thinking that the Inflammation of the *Pleura*, or *Tonsills*, *Uvula*, *Epiglottis*, *Pharinx*, *Larinx*, and the Muscles of these Parts, caus'd the Fevers that attend the *Angina*, *Plurisie*, &c.

In this Case, the Learned Dr. *Morton* has distinguish'd accurately, whose Descriptions of all the particular Sorts, are so exact, that I will follow him in that, as I shall have occasion.

But to return to my Subject, the Fevers which I principally design to speak of, are those two sorts comprehended in the first Branch of the proper differences of Fevers, whose Material Cause consisteth in the erring quantity and quality of the Blood and Spirits, which from their beginning are carried on by an uninterrupted Circuit, either with, or without Exacerbation or Remission of the Pathognomonic Signs, till the *Crisis*, and those are the *Febris Ephemera* and *Putris*.

The first *Febris Ephemera* is determined in twenty four Hours.

The second *Febris Ephemera* is determined by the third or fourth Day.

The third *Febris Ephemera* is called likewise *Sine Putredine*, and is determined by or before the seventh Day.

The *Febris Putris* is ordinarily determined in fourteen Days, unless follow'd by some extraordinary Symptom, as *Stupor*, *Phrenitis*, *Dilixium*.

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And to those may be join'd the *Febris Causus*.

All these Fevers the best of the *Modern Physicians* distinguish only *Gradu*, not *Specie*; among the chief of whom is the most Learned *Belini*: Provided the καὶσος, says he, has not Periods or Exacerbations, then it must be referr'd to those of that *Class*.

The evident Causes of the *Febres Ephemeræ* and *Putridæ*, are Perturbations and Anxieties of the Mind, Sadness, Fear, Care, Anger, Watching, too great an Application of the Mind, extream Motion of the Body, Pain, Thirst, Meat and Drink too hot, Drunkenness, crudity of the Blood, heat of the Air, hot Baths, the reception of hot *Effluvia* from other Bodies, and retention of such others from being secreted for their Expulsion, &c.

But of all these the Air is the chief, being the most frequent evident Cause, or Procatartic of all the *Ephemeral* and *Putrid*, by the Agreement both of Ancient and Modern Physicians; as the πληθὺς Morbosa is the *causa antecedens proxima*; and these are the curative Indications, viz. καὶ τὴν κένωσιν, which is either ἀραιωθῆναι, or διὰ κένωσιν ἀιδηθῆναι. The former belongs ἀδ διαίτητικῶς, and the other is answered either from Chyrurgery or *Phlebotomy*, or by the Medicines that answer that End.

The three *Febres Ephemeræ* are the most usual and frequent Monitors to Mankind of the slippery state of their Nature. In two of 'em, tho' I am proposing a much larger *Phlebotomy* than is customary in several Diseases, I approve not this Indication, viz. in the two first, and in the third, which is the same that is likewise called the *Synochus Simplex*, or *Sine Putredine*,

Of FEVERS, &c. 45

tredine, once V.S. or twice at most, as may be determined from the Cardinal Sizes, will very probably be sufficient to obtain the Cure.

The Diagnostics of these are taken from the mildness of the *Febrile* Symptoms in general.

But the *Putris Simplex* may turn to a *σωστός σαπής exquisita*, and then because the Fever has pass'd on six or seven Days towards the *State*, the Evacuations must be repeated quicker, that is to say, twice in the space of an artificial Day, or thereabouts, according to the Indications from the Cardinal Sizes.

But this last Fever may begin with the appearance of a continual, which nevertheless must be distinguish'd into two Classes, *viz.* into those without Exacerbations and Remissions, and those which have them.

The first is that which we nam'd before, and that with Exacerbations we will, with Dr. *Morton*, call *Συνεχὴς ἀληθινὴ*, and of this there is another which is called *Συνεχὴς νόσση*. The two last are those call'd by the Ancients *Συνεχεῖς*, which comprehend the Intermittents also.

Galen gives three inseparable Diagnostics of the *Ephemera*; first, the gentleness of the heat, for an intense, sharp, or acute heat, are no ways compatible with this Fever. Next, the near resemblance of the Pulse to the Natural, but chiefly just after the Fever, which is not to be found in any other; yea, in Tertiars and Quartans, where there is an *Appyrexia*, between the Paroxysms, there is sometimes an inequality to be observed in the Pulse. Lastly, the Urine has the *contenta*, like that of well People, or not much unlike it, unless it happens to those whose *Ephemera* was occasioned by the use of high

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high Meat and spiritous Liquors. *De Febr. differen. Lib. I.*

There are two Prognostics also, one of which may be called the Pathognomonic, according to this Author; for, saith he, it is above all Signs, and demonstrateth the lenity of the Fever, when the Patient bears the Sickness with facility. The other, as it invadeth without rigour, horror or coldness, so it is dissolv'd by a dewy Vapour, or gentle Sweating. *Galen. Lib. I. ad Glauco.*

There is another difference of putrid Fevers that deserves likewise Consideration, *Malign, Pestilent and Contagious*. It was not for nothing that Fevers had the name of Poison and Malignity, for as the *Britannic Hippocrates* has observ'd, near the close of the *Schedul. Monitor*. the invention of the Opinion concerning Malignity, either as to the Name or Notion, has been more destructive to Mankind than that of Gunpowder. There is no doubt it was from the Event, which is almost always direful, that the Vulgar, as well as several otherwise Learned Physicians, gave it this Denomination.

When any of the *Febres Putridæ*, whether continual by an equal Progression, or admitting Exacerbation and Remission, as the *Petechiales*; or the *Variolæ confluentes*, do about the first Days, shew the *Maculæ Purpureæ*, they are all Poison, all Malignant, and it must be so, because forsooth the Patients die of the Distempers.

I can positively assert, from a well grounded Observation of old wholesome People (who had no other Distemper but that which *Buchanan*, in the History of *Scotland*, says of an old Man of that Country, who being an hundred

and

and forty Years old, went a fishing in a little Boat, just by the Shore side, to catch small Fish for his Living, *nulla vi gravioris morbi labefactatus, sed senio solutus discessit*) that this Symptom always happens in such Cases. I shall only mention two of my worthy Friends, the late *John Earl Esq;* Consul for the *English* in *Portugal*, and all the *Western Islands*, and the ingenious *Mr. Carter*, late of *Lisbon*, Merchant, who had these Eruptions on some extreme Parts of the Body, particularly on the Backs of the Hands, for two or three Years before they dy'd, sometimes they might be all discuss'd a while, and then other Purple Spots broke out afresh. This succeeded as soon as the Stomach was not able to digest any solid Food, or but very little, (as suppose a Wing or two of a Partridge, or about that Quantity of a fresh Soal, Smelt, &c.) in twenty-four Hours, and encreas'd more and more, as they came to feed only on Liquids. The first could not digest any thing for near Twelve-months, but Milk boil'd, &c. and the other nothing but Hen-broath. There was nothing of an Hectic to be felt in the Pulse; and the first was 70 Years old, a Man who had been in fatiguing Business all his Life, till 5 or 6 Years before he dy'd. The other was about 85 or 90, one who had always made his Business only a Diversion to him. Now where was the Poison here? Why certainly it was to be found no where, but in the *Lentor* of the Blood, which was the antecedent Cause of the *Stagnation* in the Capillary Vessels, the *Causa Continens* of the *Phænomenon*. I hope no body is so zealous for this being Poison and Malignity, as to venture to say that

Chicken-

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Chicken-broth and Milk, with a small Glass of Canary Wine at due Intervals with a Toast us'd for a long time, will certainly introduce Poison into the Blood.

This Symptom here follows a great and extraordinary want of Blood, which being superinduc'd gradually, in a long time with the most perfect, exact, and just Degrees of Proportion, the Blood-Vessels keeping the same Pace, have an answerable *Ratio Orificiorum* in a manner, whereby old Men who die of this, yet have no Hectic Fever.

But this Symptom, when found in the Distempers mentioned, viz. in Putrid Fevers, or the *Variolæ Confluentes*, is to be referr'd to a quite different State of the Blood; for there the *Vitium* is a *Plethora Morbosa*, where Stagnation seems to be the more genuine Effect in those Capillaries, from whence the *Maculæ Purpureæ* break out. Yet as the Distemper is acute, and there is still a greater Strength or Force of the Patient, at least virtually in the Blood, Extravasation must be more conspicuous either in many Parts of the Body, or if in one Part only, it will still in some respect answer the excessive *Moles* of the Blood, even if it be not critical, as we see in imperfect Hemorrhagies from the Nose, or the Hemorrhoidal Vessels, or in this sort of Small-Pox and Putrid Fever by these Purple Eruptions.

Hippocrates has taught, that we may find the same Symptom in the most opposite States of the Blood, as *Convulsion* either from Repletion or Inanition, and likewise the Hickop. The learned Dr. *Friend* in his *Emmanolog.* has solv'd the *Phænomenon* of the *Globi quasi ascensus in gutture,*

ture, which happeneth equally in the Suppression of the *Menstrua*, as in their Excess, from the same Cause explicated by the most solid medical Philosophy. I have observ'd it to be a transient Symptom in all *Atrophia*'s, particularly in these following, viz. from an *Hypochondriac* Affection, a *Chlorosis*, from an *Ulcer*, and the extream and utmost Weights of all the degrees of that *Latitude* in old Age, as in these Gentlemen I mentioned.

And here I observe a mighty neglect among Authors, who seem indeed as if they had not observ'd how the same Symptom happeneth, both in the same Distemper, as we see it both in the opposite states of the Blood, viz. Repletion and Inanition, and likewise in different Distempers; and therefore have not sufficiently distinguished it, nor given a good *Etiology* of the Symptom, nor proper Remedy. It was on this Account that Dr. Sydenham is mistaken, when he affirmeth ♂ to be the Specific as it were for the *Hysteric Affection*, and the most part of these which are vulgarly called Vapours, or Womens Obstructions. His own Words are: *Et præ cæteris, Chlorosis, seu pallidi Virginum colores, uti etiam mensium suppressiones qualescunq; Disserta. epist. de affect. Hysteric.*

And it is likely others have been sway'd, by the Authority of a Man deservedly so great, who have attributed the effects of this Remedy to its Weight, and therefore have class'd it with ♀, ascribing them equal Preheminence as it were in these Cases.

Bellini, Dr. *Pitcairn*, and others, have shew'd us, that if we subtract or take away half the Power or Strength of a Man, piece of Wood,

or any thing else, which is sufficient to support a determin'd Weight, it is the same thing as if at first we should lay a double Weight upon him therefore strength will be diminish'd equally when there are two, three, four, five, &c. accessory pounds of Blood added to that determin'd Number (suppose 100 in the Cardinal Size that weighs 150, which has the due proportion to the *Orificia omnium Vasorum*, or which is natural) as if two, three, four, five pounds, &c. were subtracted from the natural Weight of the Mass of Blood, by supposition 100 pound weight. So that upon this Principle many *Phænomena* of the opposite states of the Blood, in Repletion and Inanition, may well agree as well in the same Distemper, as in different Diseases, provided the *ratio Crasum* be much the same; as suppose a Virgin aged about two, three, or four and twenty, of the Cardinal Size 150, whose ordinary Menstruation is to ℥ ij. which is her highest *plethora ad vasa*, healthful, having two due Periodical Suppressions, there will be ℥ ij. of Blood added to 102. (which is the Mass of Blood altogether, and the determined natural Number, in its utmost Capacity, justly proportion'd to the *orificia vasorum omnium*, or the Diameters of the Vessels, whereby it can just circulate, without injury to the Oeconomy) whereby there will be a *Plethora major*, and a diseased *Crasis* must be superinduc'd to the animal Oeconomy, with a very notable loss of Strength, an *Anorexia*, a disagreeable Complexion, unusual heaviness of the Body, pains in the Head, region of the Loins and Legs, and sometimes swellings of the Feet, and the *globus in gutture*, with other of the Hysterical Symptoms.

Suppose

Suppose again that this same Virgin at another time, or another at the same time, and of the same Cardinal Size 150 pound Weight, shou'd by a too rigid Diet (in time of Lent, no unusual thing among the Votaries of the Church of *Rome*) both as to quantity and quality, as feeding only on *baccaléau*, or dry'd Newfoundland Cod, not only miss of her two usual Menstruations, but have a diminution of the Mass of Blood to four pounds, *i. e.* the Mass reduc'd to 98 pound, which is an *Inanition* equal to the other *Repletion*, here the *Essentia morbi* would manifestly appear, altho' not with an exact Harmony of the Symptoms, yet with so many of 'em as will be sufficient to make the Diagnostic.

The common Symptoms to them both depend upon the Likeness of the *Crales*, for the *Lentor* being much about equal in both, there will be an equal Loss of Strength, and an equal want of the *Menstrua* at this time; but *this* will continue much longer than *that* which is found with *Repletion*, altho' it is duly treated. There will be also an *Anorexia* in some degree, and an unusual Heaviness and Weight of the Body, and a Weariness, as *Sanctor.* has well observ'd, *Seçt. 1. Aphor. 28. Illa viventis conditio, dum sentitur corpus onerosum, quando non est, pejor est, quam illa, dum sentitur quando est.* And *Aphor. 35. Lassitudo illa, quæ fit, dum corpus redditur minoris roboris, & minoris ponderis, est aliis periculosior: pondus enim est roboris species.* And there will be transient Pains in the Head and Legs, with the Symptom of the *globus in gutture*; but there is nothing that makes so wide a Difference in the opposite States of the Blood, wherein

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wherein this Distemper is found, as that there are Spirits enough in that from Repletion, but not so in the other from Inanition. Nay, this Distemper doth not seldom begin with a *Plethora morbosa*; and yet after a long Continuance, the Diseased, for want of Nutrition, may come to have an *Atrophia incipiens*, or sometimes a confirmed one, as well as a *Tabes*, which is observed by Dr. Friend.

The Diagnostics of this Distemper, as it stands with Inanition, are taken from the Errors of the Non-naturals, as is said, from Ponderation, and from a visible Diminution of the muscular Parts; and the Physician has a manifest Advantage for doing this last, if the Patient be of his Acquaintance, and whom he sees pretty often.

The curative Indications are very different in these two States of the Distemper, for in that from Repletion, Evacuation both sensible and insensible is indicated. Venesection, Cathartics with the *Emmanagoga* of all the stronger sorts, whether ♀ *Calamel. Myrrhæ, Galban. Asæ fatidæ, Castor. Opij, Croc. &c.* made into the Form of Pills, Tinctures, Infusions, or Decoctions of *Absinth. Gentian. Centaur. Min. Camemel. Puleg. Rut. Ari. Sabin. &c.*

But in this, as it stands with Inanition, the chief Indication is Repletion, and this is answered by a right Institution of the dietetic part and proper Remedies.

The Blood-vessels in an incipient *Atrophia*, tho' they have not yet quite lost their Spring, yet are too wide in their Diameters in respect to the circling Fluid within them; for the thing is the very same as if this Diminution of
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the Mass of Blood happened from profuse Menstruations, which Dr. Friend has abundantly shewed: And then a Coarctation of the *Vasa* is indicated, which is answered the best by δ , of all the *Materia Medica*. It ought to be given with these or such like, viz. *Cons. Ros. Granat. Cynosbat. Syrup. Limon. Citr. Rub. Idei, & Syrup. Balsamic.* two or three times *per Diem*, or the Balsam in form of Pills, with Canary and Water, or some proper distill'd Water.

Here I can assert from Experience, that in this sort of the *Affectio Hypochondr. Hysteric. Chlorosis*, Bleeding and almost the mildest Cathartics are not only hurtful, but even the mildest of the Emmanagoga, such as Green Tea; altho' Bohee made strong, and not drank too hot, is a Remedy.

Now to prove that δ doth Hurt in the Cure of these Distempers in a replete State, let any Physician prescribe it only with the *Materia Medica*, which I nam'd in the State with Inanition, and he'll be quickly satisfy'd.

For right or wrong, Physicians prescribe it with the *Bitters*; and indeed in the replete State it is those take often Effect, not it.

Again this appears from the Etiology.

Rx Ol. Sulf. per Campan. cum aq. font. dilut. ana. q. s. ponatur in phiala vitriâ forti, & affunde δ limatur. q. s. stet phiala orificio satis aperto, & ad fundum dabitur vitriolum. Vicem olei Sulphur. supplere potest oleum vitrioli.

Iterum; Rx Ol. Vitriol. cum duplâ quantitate ol. terebinth. ex parvâ retorta vitriâ distilla, & portionem veri sulphuris, circa Retortæ collum reperies.

Iterum, R δ igniti. fiant multæ admodum extinctiones in Aq. font. & Aqua emetica evadet.

From which Experiments it appears, that δ , if we make 1000 Preparations of it, unless we destroy the Essence, is no other than a Vitriolic Body, having some very small proportion of Sulphur in it; for we must take Notice, that the Sulphur is no great matter, that can be gathered from the Neck of the Retort in the second Experiment, altho' we may suppose reasonably that there is a very large Quantity of Sulphur in the *Ol. terebintb.* as it is a very inflammable and volatile penetrating Oil.

Therefore the constant genuine Property of it is astringent, and when it does attenuate the Blood, it is with the Help of the *Materia Medica* fitly prescribed; for it operates slowly, yet surely. There is always a pretty Quantity of it sticks among the *Plicæ* of the Intestines, whereby all that passeth that way of Chyle or Drink, taketh a Tincture of it along with them, till we see occasion to give some Cathartic, when it begins to shut up the Belly too long, &c.

For it is manifest from the Explication Dr. Friend has given of Inanition from the immoderate Flux of the *Menses*, that the *Vasa* are too wide in proportion to the Quantity of Blood they carry, wherein, as well as in incipient *Atrophias*, from what ever Cause, this is the principal curative Indication.

So that Venesection and φ , with Cathartics, in these Distempers, with Repletion, are the Remedies which most perfectly adequate the
Causa

Causa antecedens; and that being taken away, the *Causa Conjuncta*, the *Lentor*, must likewise give way, and the Distemper be overcome. And I do declare it, that in this Case from well-grounded Experience I don't know ever to have fail'd of the Cure.

But in these Distempers while consistent with an opposite State of the Blood, as the Remedies mentioned are hurtful, so ♂ is the *Herculean*, *quod omnem fêrè absolvit paginam*. It is sufficient I have shew'd that ♂ is not the *Remedy*, but a *Remedy* in the *Affectus Hypochondriacus*, *Passio Hysterica*, and *Chlorosis*, and when it comes to take Place, it cannot be said to operate by its *Pondus*, for in that respect ♀ would be much better, the contrary whereof is evident. And in this respect, ☉ would be still better than ♀, being more ponderous; but this is so far from being true, that it is no *Remedy* at all in these Distempers, nor in any other, except as it may be made active by joining intimately other natural Bodies to it, and then its *Modus operandi* is due to its *Help-Mates*, not to it self; and any other body, as much passive as it, will do the same.

But to return from this Digression, I am of Opinion with the best of the modern Physicians, that all Fevers have the same *Causa materialis*. And I think farther, that they are at first chiefly distinguished in their *prima exordia*, call'd generally *prima morborum semina*, by the different Quantities of it; and that they next take their regular Forms by the Impression which the Air either as too much condens'd or too much rarify'd, makes upon the Blood, with more or less Chyle in it.

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We must consider the various Quantities of Blood in human Bodies, which make so many different Constitutions; that each of these have their determined and different Quantities of Food, necessary for the renewing, encreasing, and maintaining them; with which we must likewise consider the manner of its being elaborated, and the various ways of Distribution. Besides our own Experience, we learn from *Sanctorius*, that the Digestion of the Food in the Ventricle requires about 7 Hours, *Sect. 3. Aphor. 1.* In many Places he has shew'd that the Digestion, Coction, and Perspiration must be done in 12 Hours; that it is better to take our necessary Aliment, *partitis vicibus*, than at one Meal; and that it is better to eat the largest Quantity, and of the most nutritious sort of Food at Dinner, and of the less nutritious sort at Night, which (by reason, as I take it, of its thin and more fluid Consistence and Texture, is better able to humect the precedent Chyle of the Day, and help it forward in the second and third Coctions, but especially the second) in the 4th and 5th *Aphor. ibid.* we may gather; that the second Coction is perform'd in about 5 Hours, and the Nutrition and Perspiration in four more, *quo tempore est occasio alendi, vel medicandi*, *Aphor. 56. Sect. 1.* Moreover he observes, that Males augment the natural Weight of their Bodies to lb. ij. &c. every Month, and return to their usual Weight again as well as Females, 65. *ibid.* that if lb. j. of the *Perspirabile* is retain'd, thro' any Error of the Non-naturals in one natural Day, it must be thrown off insensibly in three Days, or some Distemper will follow, 73. *ibid.* that the

the *prima morborum semina* are better known from the alteration of the unusual Perspiration, than from the hurt impress'd upon the other Faculties ; that if by Ponderation we find the usual *Perspirabile* to be retain'd, and that it is not after a few Days thrown off by Sweat or Urine, from hence we may form our Prognostic of an insuing *Putredo*. Aphor. 42, and 43. *ibid.*

When he says, *Quod Corpus ob externa errata non labitur in morbum, nisi antea aliquod viscus habeat præparatum*, I understand him to affirm what I shall make my first Supposition, or *Postulatum*.

I suppose then, that a Man of the Cardinal Size 200 Weight, whose Food daily amounts to £ viij. or more, has, for once only, eat at Dinner about £ viij. of Flesh, the most nutritious sort, and £ j. £ iiiij. of the rest, and makes his chief Meal at Supper, amounting to £ vj. (all Eatables and Drink computed) of the less nourishing Meats, and that he sups at eight a Clock at Night, and being call'd up hastily in the hours of the greatest Perspiration (suppose about four a Clock of the Morning) awaking suddenly without thought of his Health, he runs to a Window, or some other Place, and talks with some body who call'd him, having put on his Morning Gown, but not taken the like care of his Feet ; and in this manner for some Minutes he stands bare-footed on the Ground, or a ground Floor, boarded over, or it may be in a second Story where the Floor is brick'd ; from such a Circumstance a Fever many times followeth, ei-

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ther a continual *συνεχός*, or with Exacerbation and Remission, and sometimes attended with the most dangerous Symptoms, of which I have known several Instances.

There being about 3 xl. to be secreted by Perspiration from eight at Night, by eight a Clock in the Morning, we'll suppose the same Person likewise to be near the time of his monthly Crisis, and that he had lb ij. of an antecedent *Plethora* accumulated for this Purpose, by the order of Perspiration there is but lb j. secreted the first five hours; and not three hours of the high Perspiration being over, there will remain in the *Viscera*, and Vessels of the second Coction, and in the Mass of Blood about lb jβ. at least, of the perspirable Matter, which being amassed together, will make a *Plethora* of three pounds and an half, or four, being the *prima morbi semina*, which cannot now be secreted on this account.

It is the Opinion of the best Anatomists that the *Lympha* is separated for diluting the Chyle, as may be seen by the Lympheducts emptying themselves from all the Parts of the *Abdomen*, and the lower Extremities into the *glandulæ inguinales, sacrae, iliacæ, lumbares, mesentericae* and *hepaticæ*, from whence spring out new Lympheducts that pour their *Lympha* into the *Receptaculum Chyli*; as those of the *Thorax*, Head, and Arms, do into the *Ductus Thoracicus*, jugular and subclavian Veins. And the Ingenious and Learned Dr. Keill affirmeth, that there is a great deal of volatile, but no fix'd Salt, Phlegm, some Sulphur and a little Earth to be found in the *Lympha* Chymically examined.

examined. He has likewise shew'd us in his Treatise *de animali secretione*, that the Glands are only Branches of Arteries of gradual Sizes, growing always smaller and finer, the farther they are from that part of the Trunk where it is widest, and that the Orifices of those Branches of Arteries or Glands, which are fitted to receive or secrete the greatest sorts of Particles in the Blood, do admit some also of any sort that are smaller than those; but the Vessel growing still narrower, as they proceed after they are entered the Gland, the big ones will come to press the small harder, which must give way, and then there being other arterial Branches arising at those distances, these smaller enter and are secreted more and more, as the Gland for the Secretion of the large Particles does proceed, till those big Particles at length arrive to be secreted, with very few other Particles than those that are of the same kind. He also sheweth, that the *Lympha* may be separated at any distance, because its Particles are of the fine sort, and that they have less Attraction than the rest, and by reason of their Figure being flat, they are the fittest to make a viscid Substance, because of this Aptitude for Cohesion.

However, there is a doubt among Anatomists, that if the *Lympha* was only design'd to dilute the Chyle, it might have been secreted at nearer distances to the *Receptaculum Chyli* and *thoracic. duct. &c.*

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Now as to this, I think it highly probable, that there should always be, at the end of the Artery, where it joineth the Vein, a Lympheduct, whose Orifice should be as nigh the Vein as the boundary of the Artery would permit, for this reason. The best of all the Modern Physicians (particularly Dr. *Mayow* in his Experiments) do affirm that a considerable quantity of Air enters the Mass of Blood, from the *Vesiculæ bronchiales* of the Lungs. So elastic a Body, and of very fine Particles, must accelerate the Motion of the Blood in the Arteries, and strengthen the Secretions in every particular Gland, and there was even a greater necessity of its Assistance, where the Particles are most tenacious, and have the slowest progressive Motion, as in the *Lympheducts*, *Receptacle* and *Thoracic Duct*, and in the Veins by supposition now saturated with Chyle. In the natural Oeconomy, the Air is more rarify'd as it passeth from a wider part of the living Tube to a narrower; consequently as a Fluid presseth every where, its lateral pressure must be augmented, and much Air must enter thus rarify'd into the Lympheducts, there being many of them, and a pretty deal into the Vein.

But in the Case before us, the numerous Capillary Arteries, Veins and Lympheducts in the Soles of the Feet, being expos'd to a cold much superior to that of the ambient Air, impress'd from Stone, Boards, or Bricks, by an immediate Contact, the Air within them must be suddenly condens'd, whereby its *Nisus* to the Sides of the Artery will be in a manner lost,
and

and in the instant of Repercussion, or Retraction, being just on the threshold of the Vein, it is push'd by the next Pulsation forward mostly into the Vein; whereas the greatest part should have enter'd the Lympheducts, both to prevent the Coalition of the Particles of volatile Salt, and to ferment the Chyle in the *Receptacle* and *Thoracic Duct*, to reduce the *Moleculæ* to a fineness, for making them more miscible with the other humours of the Mass of Blood.

The small portion of Air that enters the Lympheducts in this Case, and the larger Proportion than usual, which entreth the Veins, can't expand it self, being condens'd in a hotter place, *viz.* in the Arteries, than those are where it now is, as is partly manifest from the effects of Fire in Cupping Glasses, where the common Air is so much rarify'd, that it is near quite shut out of the Glass at the instant of Application, which is the chief reason why it flicks so fast. *Agricola Lib. 5. de re metallicâ* observeth, that the Air in deep Mines is rarify'd and condens'd according to the Seasons of the Year, or the Degree of Heat which followeth the Sun's approach or recess, which he experimented by his Air-shafts: *Etenim vernis & æstivis diebus in altiore puteum influit, & per cuniculum vel fossam latentem permeat, ac ex humiliore effluit, similiter iisdem diebus in altiore funiculum. Autumnali & hyberno tempore, contra in cuniculum vel puteum humiliorem intrat & ex altiori exit, &c.*

For

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For want of Air then in the Lympheducts, Receptacles and Veins (for its not being able to exert its usual Effects, is the same thing in a manner as if there was none) the Particles of the volatile Salt in the *Lympha* will many of them coalesce, and form large *Moleculæ*, which in the next Circulation can't be eliminated by those Glands of the same Kind appointed for Perspiration, nor enter those whose excretory Ducts make the Lympheducts, so here must follow an Interception and Accumulation of the volatile Salt. And for the same reason the Chyle will lose that Comminution, which is necessary in the second Coction, before it enters the Mass of Blood, while it is in the *Receptacle* and *Thoracic Duct*, and will move more slowly from thence by how much more Viscidity it hath acquired than usual; and the Chyle in the Veins, which has past probably not a quarter of the due Circulations through the Lungs, being yet not comminuted sufficiently, for the same reason will remain so; and then some of those viscous Particles must unite, which being very large in their Surfaces must be attach'd every Circulation in some of the Perspiratory Glands, and here will be a *Nidus* for the volatile Salt, which must increase according to the quantity of the Chyle in the Mass of Blood.

The Patient by supposition has now a *Plethora* about four pounds; and we may suppose again that he eats of the easiest digested things, together with his Drink the Day following, to lb v. or vj. the course of the Perspiration

tion therefore being ruined, and the Crasis of the Blood already having a too great Cohesion, the *Plethora* by this addition will rise to ℥vj. at least. And this is no unreasonable Supposition; for most People when they find themselves first out of Order, are willing to allure their Stomachs with some dainty Morfels, and the use of Cordials, as Sack, *Burgundy*, *Champaign*, mull'd Wine, &c. which must bring on a Fever, which is ordinarily the *σύντονος* *Putris*, whereby these Chylous Parts, being abundant in the Mass, must by a sufficient number of Circulations be digested, and so broke small enough to be eliminated out of the Circulatory Bounds.

Thus after great Exercise, which augmenteth the velocity of the Blood, as well as in the hours of great Perspiration, the Head and Neck being expos'd to the Air, (which comes cool through a Window, Door, Crivas, &c.) or indeed any other part of the Body, it is as easie to conceive how a Fever will often follow.

If any one should think such a small quantity of Blood, or Lymph, as doth pass thro' the Capillary Arteries and Lympheducts of the Soles of our Feet, in seven Minutes and an half, can scarcely be able to produce such an effect on the rest of the Mass, let him reflect on the Observations of the best Microscopists, *Leuwenhoeck* particularly reckons that one grain of Sand will cover above one hundred thousand Orifices of excretory Ducts of the Perspiratory or Lymphatic Glands. Let us then only suppose that five hundred
Grains

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Grains of Sand will cover each Sole, which is a very easie Supposition, and say that the Heart makes at that time seventy Pulsations a Minute; and suppose next only that two of the Particles mention'd should coalesce, and form a *Molecula* too big in every one of the excretory Ducts and Veins, just after their entry; however, passing into wider Channels, they proceed in their way till they arrive at the Heart, and are then thrown into the Lungs, but being of a bigger Size than those which are usually comminuted farther in that Passage, by their pressure on the Blood Vessels, they are returned to the Heart without any Alteration, where they are again thrust into the Arteries, but must stick when they arrive in the Glands and evanescent Arteries, being too big to pass through: It will appear by an easie Calculation, that more than fifty hundred thousand Millions of those great *Moleculæ*, will be form'd in that half quarter of an Hour; which I suppose will be a sufficient Number to bring on a *Lentor* in the Blood from that Juncture of time, allowing only for some few more Circulations of the whole Mass through the Heart, and by a supply of two or three pounds the next Day, of the same kind of Fluid, many of the Glands over the whole Body will be obstructed, whereby a Fever must inevitably follow.

Most

Most of the Ancients were of Opinion, that some of the Humours of the Blood were really capable of Putrefaction: *Galen* compareth the Putrefaction within the Veins to that which is made in Abscesses from the Humours. *Heurnius* distinguisheth Putrefaction of Human Bodies into that which is made of Blood, which is *pus purum*; and that which is made of Serum or Ichor, and this he calls *Materia purulenta*. *Fernelius Lib. 4. Pathol. Cap. 6.* asserts, that some parts of the Blood are capable of Putrefaction, and others not; and herein he only erreth, for he gives an elegant Description how the Putrescible parts in Fevers attract one another, till at last all those Particles capable of Putrefaction are putresc'd, and then that which is pure is separated from them altogether.

But that neither Arterial nor Venal Blood is capable of Putrefaction, or digestion into Pus, I can assert from Incisions made in many parts of the Body, where there was time enough for that Work to have been done; and all Men who have been Practitioners of Chyrurgery will affirm the same. Next, wherever we find Pus, it is among the Membranes, whether in the Interstices of the Muscles, or in those of the *Cutis Vera*, as we see in *Exanthemata* of the distinct Small-Pox, and the Abscesses call'd *furunculi*, *paronychia*, &c.

Again, I have observ'd many times where the wounded have been (which is frequent among Soldiers) twenty four Hours, or sometimes thirty, without Victuals, marching it may be twelve of that time; yet when the Wound came

came to be dress'd, there scarcely appear'd any true *Pus* on the dressing, yea 'twas mix'd with much Blood; and the very next dressing we shou'd find good Digestion, when the dressing was done within the time of Chylification. Moreover, in large Abscesses between the Muscles, we see both the Veins and Arteries lie untouch'd, tho' the *Pus* be form'd round about them.

But I shall proceed to give an Instance, which I think will sufficiently prove, that the *Lympha* or *Serum* can't be made *Pus*. There was a lusty young Man had a general *Anasarca* over his whole Body; his two Physicians after they thought they had dispatch'd the Evacuations by Cathartics, and had pass'd some Weeks in the Course of the Alteratives, at last gave way to the Patients continual Cry for hastening his Cure, and therefore concluded from Dr. Sydenham's wrong Etiology of Steel (who affirms in his *Dissertation* of the *Hysteric Affection*, that it strengthens and comforts the Blood and Spirits thence derived, because it raiseth a volatile Ferment in the rapid and languid Blood; by which the Spirits are excited and lifted up, which before were extremely low and oppress'd with their own Weight) to give him a light Preparation of *Aq. font.* impregnated with some Ex-tinctions for his ordinary Drink, with a little White-wine. In a Day or two he had a Fever, tho' before he had none, and it was in the beginning of Summer, and a fine Season. This happened from the genuine Quality of the Remedy, (it being adstringent) which was given before the visible Detumescence of the Parts,

or

or Depletion. Wherefore the Physicians observing in a Day or two some Exacerbation towards Night, and Remission in the Morning, they resolv'd to give him the *Cortex*, whereupon he took 3 iſſ. *Methodo Sydenhami*. But the Fever grew rather higher, and with some bad Symptoms; among which was great Pain in the Thighs and Legs. In about ten Days there were the Signs of large Abscesses in the Interstices of the Muscles of those Parts; and upon Apertion vast Quantities of concocted Matter was discharged; likewise the most part of that Matter which swell'd the *Penis* and *Scrotum* had the same Fate; but the Patient languish'd daily, and soon after yielded to the Distemper.

Now I am apt to think, that in so vapid a State of Blood as that of the Dropsy, there are very few volatil Particles in the *Lympha*, and Nutrition being spoil'd in this great Cohesion of the Blood, much of the Chylous Particles is discharg'd into the little membranous Cells, among the nutritious Juice within the Interstices of the Muscles, and the *Cutis vera*, which takes many Months and great Art to be discharg'd. Those therefore in the preceding Case being attack'd by so brisk and generous a Remedy as the *Cortex*, and too hastily, having no way to escape, were put into a Ferment; which being continu'd some Days, with the Assistance of the neighbouring Heat in the Muscles, were thus digested into a *Pus*, almost as compleat as is generally found in large Abscesses.

Any one may soon be convinc'd of the *Cortex* being a strong evacuating Medicine, by the brisk Ferment it causes in the Spittle, but
espe-

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especially the *Fasting-Spittle* so call'd. There needs no farther *Apparatus* for Trial, than to take a Pinch of the fine Powder between the Finger and Thumb ; and after chewing a little to spit about \mathfrak{z} ij. or less in the Hollow of the Right Hand, and apply it to the Ear.

By all these Arguments therefore it is not agreeable to Reason to believe, that any of the Humours of the Blood are capable of Putrefaction, however for Distinction we must allow some *Fevers* to be called *putrid*, and in these it is no other than the chylous Particles, which in the proper time appear as a νεφέλη, ἐναιώρημα, and *ὑπόστασις* in the Urine.

I said before, that it is very reasonable to think all Fevers have the same material Cause, and receive their several Forms from the different Proportions of this accumulated in the Mass of Blood, so that continual Fevers come to have the greatest Quantity, and those with daily Exacerbations less, (though sometimes in the large Cardinal Sizes I have found it near equal) and they which have Exacerbations every other Day still less, and intermitting Fevers least of all. And Practice also confirms this Opinion ; for *V. s.* in a continual putrid, of the Cardinal Size of 200 Weight, often may be necessary above \mathfrak{z} lx. in the same Size with daily Exacerbation to \mathfrak{z} l. or lx, every other Day \mathfrak{z} xl. will ordinarily do ; and in an intermitting Fever, suppose a Tertian, and in such a Subject, (but the Distemper must be recent) \mathfrak{t} ij. or \mathfrak{z} xxx. may be sufficient. This is to be learn'd from what Dr. Sydenham has observ'd in the Cure of *Tertians*, who says we must take Care
not

not to give the *Cortex* too soon, till the Distemper has wasted it self a little, unless the weakness of the Patient should demand its use sooner. For that is not to be fear'd alone, least from the preposterous use it should be rendered ineffectual, and the Hope of the Sick disappointed, but that the Life of the Patient may be lost, if we suddenly put a Stop to the Blood's despumating it self with all the Power of Fermentation.

But from my Practice, confirming my Theory, I find this Observation useless; therefore without waiting till the Distemper has run out a while, to spend it self at the Expence of the Patient, I attack it in its Strength. I order the first *V. s.* in the Apyrexia, and so the second, to have my Quantity demanded, and then exhibit an Emetic the Day of the Paroxysm, two or three Hours before the time we expect it, and that Day or the next, as I find convenient, begin the *Cortex*, and use for a Patient of the Cardinal Size mentioned \bar{z} j. β . repeating it *ad* \bar{z} j. *omni septimo die, tribus vicibus.*

This Method proportionably, with all the Cardinal Sizes in the Adult, I have found to answer exactly. And the reason is this, as *Bellini* has laid the *Causa conjuncta* of Intermitents in a *Lentor*, so I make a *Plethora* to be the *antecedens*; and in such a Subject as the Cardinal Size of 200 Weight, after three or four Paroxysms, about the Beginning of the Distemper, in the last Apyrexia, I reckon the *Plethora* remaining, just after the Paroxysm, to amount to \bar{z} xxx. at least, if not lb iij. or upward, which Nature has no other way to rid her self of, but by instituting a Number of Fevers, which may at last eliminate all the *Materia*.

Morbifica, as well as if the Despumation was done by one entire and continued Circuit. For we may see, from what is said on the Subject of continual Fevers, how possible it is for an antecedent *Plethora* of two Pounds to be augmented to lb iij. or iv. in almost the Space of two natural Days, reckoning from the Apyrexia of the last Paroxysm, to the Beginning of the next. And till it reacheth that Height, how it is not able to cause a Fever, may be understood likewise from the same Discourse.

We see from this that the time of *V. f.* is in the Apyrexia, the next Day after the Paroxysm, for so we take away at once more of the antecedent material Cause than Nature could in many Days. 'Tis also apparent how far those Physicians err, who make but one or two Evacuations in continual Fevers with Exacerbations, and those in that *Interim*. Yet for all this, the Faculty is indebted to our *Hippocrates* for this useful Observation; for indeed in his Days, altho' he had very great Contemporaries of our own Country-men, yet they were all accustomed to use the great Evacuation less than himself: And even for ought I could ever see, to this Day it has been of very great Usefulness and Advantage.

I shall now examine the last Division of continual Fevers, (which was *malign, pestilent, and contagious*) and lay down some practical Observations, and Histories of Cures, for determining better the Quantity of the great Evacuation; and then conclude with a few other Histories, which may also conduce to this Practice.

C H A P. V.

*Of malignant and petechial Fevers :
Also a Dissertation about Sanguifi-
cation, or some Arguments to know
from the Difference of Food, whe-
ther Portugueze and Spaniards
have more Blood than English
Men : With the fourth Experi-
ment of the terminus ultimus of
Blood to be taken away in these
Fevers : Together with Histories
of Cures : As also, Observations
from the Practice of the Portu-
gueze Physicians, that a larger
Phlebotomy, in many Cases, will
be necessary than in our present
Practice for Cure of the Small-Pox.*

HAVING shew'd sufficient Authorities from
eminent Physicians, to prove the Ne-
cessity of large Blood-letting in many of those
Fevers which are called malignant, particular-
ly the petechial, where the generality of the
present Practicers say, that as little ought to be
taken as in any Case, except the Plague or a
Lipyrial-Fever (and if they take lb j. or five
or six Ounces more from one of the strongest
Men, they think they have discharg'd their
Duty,

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Duty, because they save their Credit by walking in a beaten Rode) I shall now produce the Opinion of a famous Portuguese Physician, *Zacutus*, as an Objection against my self. He says: *In corporibus nimirum Hispanorum, abundat sanguis crassus, succulentus ac compactus, ut si febre continuâ corripiantur, ni larga sanguinis missio interveniat, omnes moriantur. Contrâ Germanorum corpora conferta sunt sanguine crudo, aquoso, non benè firmo.*

To this I answer, that for ought I ever could learn, *Zacutus* never did practice in Germany, and I believe I have as good Reason to think he never did in England; so that he only took this Notion from observing the Authors of both Nations mention so small Quantities of Blood taken in the Cure of Fevers, and the most inflammatory acute Distempers, where Dr. *Sydenham* had the highest; before the Excellent Dr. *Cole*, who has prescribed 3 xx. farther than he in his Treatise of *Apoplexies*. Nay, which is still more surprizing than any thing I have pretended to, he orders ʒ v. of Blood to be taken at once from strong Apoplectic Patients, altho' I'm convinc'd that it is the safest way of Practice, from much greater Quantities which I have ordered my self at different times, and with admirable Success (I bless God) not only in this, but many other acute Distempers. For Extravasation may happen in 2, 3, 4, 5 or 6 Hours after the beginning of the first Paroxysm, and then it will be too late.

This same Author affirms, that the Learned Dr. *Gibbons* of Oxford does the same in the Cure of *Apoplexies*, p. 152.

I have been told by many Gentlemen of good Rank, both *Spaniards* and *Portuguese*, nay, by the greatest

greatest Physicians in *Portugal*, that their Flesh Meat is much more spiritous and nutritious than ours, and they have Wine to drink; whereas in *England* our Drink is a waterish sort of Liquor, on which Accounts these People have more Blood than the *English* and *Germans*.

To which I answer, that this is *gratis dictum*. But let us suppose for once, tho' I don't grant it, that their Cattle have more Blood, and the Meat more Juice than ours. Every one knows, who has been in those Countries, that the *English* eat much more Flesh-meat than their Natives; and that our Beer and Ale are spiritous enough for the work of Digestion; nay, to allay Thirst are more proper than Wine, and to every purpose as fit a Vehicle to dilute the Chyle both for rendring it fit to enter the Lacteal Vessels, and mixing intimately with the Mass of Blood. The strongest Liquors are very far from being fit for this End, insomuch that they keep raw Flesh Years free from Alteration, which is quite contrary to the Digestion and Alteration that is necessarily requir'd to make our Food fit for nourishing our Bodies. All Physicians allow, that Wine is not fit for these Purposes in every Constitution: Experience sheweth, that the strong White Wines of *Portugal* and *Spain* are not, since in many Places where those or none must be made use of for common Drink, in two or three Years, lean People (though moderate enough) are scarcely able to avoid Consumptions, and for that Purpose do betake themselves to the use of Water only, without the least mixture of Wine. If such *English* People whom I have known reduc'd to this necessity had been furnish'd with well
brew'd

brew'd Malt Drink of that middle sort, which is made use of in good Families in their own Country, how comfortably cou'd they have liv'd in respect to their Air and Diet, as I have been told by many, and I my self can say it from my own Experience?

This Necessity has oblig'd in a manner the Body of the People, who are Natives, and eat but a small quantity of Flesh-meat, even Gentlemen and rich trading Families, to drink in a manner nothing else but Water. On the other hand, when in *England* the poorer sort have Flesh-meat enough, and no body is oblig'd to drink Water; if our common People eat half a Pound of Flesh-meat for one Ounce that *they* eat, and drink a nourishing and spiritous Liquor, as much as they have occasion for; is it not more likely that *Englishmen* shou'd have more Blood, when both their Meat and Drink are much more nourishing?

It is known by Experience, that the fleshy Fibres nourish much more than the Juice of them alone, let them be made into never so fine Broaths and Gellies. Any one who doubts it, let him feed a labouring Man as often as he can desire, but 2 or 3 Weeks with the best Broaths and Gellies that can be made by Art, and nothing else, allowing Bread enough, and he will find that he will manifestly fail in his Strength and Flesh; when only by allowing him again his former Meals of Beef and Mutton, he shall return to his Strength as formerly. In these Nations the common People feed 2 or 3 Days in a Week on Pottage, which is made perhaps of two pounds of Mutton, and a quarter of a pound of Bacon, with Roots, and

a sufficient Quantity of Herbs, such as Cabbage, Succory, Turneps, Carrots, with Spice and Saffron, &c. to make up a Day's Provision for 8 or 10 Persons, which they call in *Portugal* *Sopa's*, in *Spain* their *Olio*; and they drink Water. Again, as many Days they feed only on Fish, and half of that is dry'd, chiefly *Baccaleau*, or dry'd Cod. If People in *England* eat Meat every Day, and make a good part of two Meals of it, and drink besides, and that plentifully, a wholesome nourishing spiritous Liquor, who is most likely to breed most Blood? Tho' indeed, if People who have little Exercise forbore Flesh-Meat at Suppers, and eat Spoon-Meat instead of it, nay, and eat less Meat and more Roots, Herbs, and Fish at other times, 'twou'd both breed more and better Blood.

But, says *Zacutus*, our Blood is more crude, watery, not so firm, (a strange Word, and not easie to be explain'd) and to use his own Expression, *Si in febris sanguis Hispano missus fluidus, aquosus, non concreseat, indubium indicium, etiam ignotis cognitum, omnes mori, quia fibræ ejus sunt dissolutæ.* For my part, I can't understand what he means by this, unless it is, that when the Globules of the Blood are broke so minute that their Texture is quite ruin'd, the Blood when drawn is not capable of Coagulation. I am apt to think few ever saw this, either in *Spain* or *England*. Indeed when but an Inconsiderable part only does coalesce, and the rest appears fus'd, of a discolour'd mixture, with much black, and hardly any *Serum*, these Patients are in danger not a little; yet I have had several of these escape with their Lives
in

in Fevers. Tho' as I have said in another Place, the appearance of Blood, when cold, is so uncertain, that no sure Diagnostic or Prognostic can be taken from thence.

I appeal to many Chyrurgeons of our *British* Troops in *Spain* and *Portugal* (who have seen much *English* Mens, and not a little of these Peoples Blood) if ever they observ'd their Blood to be so notably thicker than ours; at Home, or in those Places. For my share, I must profess, I us'd to see it pretty often, but never could observe any thing in their Blood, but what is customary in the same Distempers in *England*, unless my Sight deceived me.

The Ingenious and Learned Dr. *Cockburn* affirms, that the effect of Opiates lasts more than twice as long in Infants as in old or grown People; from whence he rationally concludes, that their Blood is thicker than older Peoples, because thick Liquors are most capable of Rarefaction, as we see from a familiar Example of Water thicken'd with a little Dirt or Clay, gather'd by rowling in time of Rain, which carries great Numbers of Bubbles on the Surface, rais'd by that small Motion communicated by the falling drops, which continue very long, yet at another time without this it will not do.

Now if the Blood of these People was but as thick as Childrens, the effects of Opiates would be the same; and I can affirm from Experience in these Cases, where there is the greatest use for them, I found occasion for as frequent Supplies of this Medicine in their Distempers, as we do for those of grown People in *England*. There

There is no doubt but there are different degrees of Spiritousness in the Blood of all People, whether well or sick, which depends remotely, on the manner of Aliment, &c. Non-Naturals, and immediately from its Texture, mode of Mixture, and the strength or weakness of the Fibres of the concocting Organs and Vessels. But this must be understood otherwise (as I have said elsewhere) than by inspection into a Porringer.

There is some reason to believe that Childrens Blood is more crude than that of elder People, because the concocting Fibres are weak, and want much of their Spring and Strength, which they will have when they arrive at their full Growth. By this means their Contractions will be more Impotent, and the Digestion and Coctions more imperfect, as the excellent Dr. *Pitcairn* has fully shew'd, *De Digestione*; but about this time of full Growth the Spirits have mix'd themselves more intimately with the whole Mass of Blood, and that crude Matter which obstructed this before, is separated, and intirely expell'd the animal Oeconomy, not unlike to that natural Defecation which we see in Wines.

But why *Englishmen*, when Adult, when as Strong, and living as long, and longer, and having every thing necessary for a great Nutrition, should still have a more crude, watery and dispirited Blood than the *Spaniards* and *Portuguese*, I must profess, is beyond my Understanding.

I shall conclude my Argument on this Head in the Words of that most Judicious and Learned Physician Dr. *Cole*, and then give some Histories of Cures in those commonly call'd Malignant and Petechial Fevers.

“ If we make (says he) but a Reflection
“ on the quantity of Blood which very able

“ Physicians

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“ Physicians have concluded to be naturally
 “ in our Bodies, *viz.* from about sixteen to
 “ twenty five pounds, according to the Bulk
 “ and Constitutions of Persons ; which, too,
 “ by full feeding, and want of due Exercise,
 “ may possibly at some times be considerably
 “ increas’d ; and withal, how that many not
 “ only live under great Fastings for many
 “ Days, whether for want of Appetite
 “ or Constraint, which (Evacuations pro-
 “ ceeding notwithstanding, at least that of
 “ Transpiration, which, according to the
 “ Observations of the accurate *Sanctorius*, is
 “ much the greatest of them all) must ne-
 “ cessarily diminish the quantity of Blood much
 “ below the Proportion that any Physician
 “ by bleeding dares (tho’ for Reasons not
 “ so proper for this Place, and the brevity
 “ of a Letter already swell’d too much, the
 “ Advantages thence resulting in many Cases
 “ equal not those of a free *Phlebotomy*) and
 “ yet afterwards recover to as good a state
 “ as ever they enjoy’d : we ought to lay a-
 “ side those panic Fears of a comparatively
 “ plentiful Evacuation this way, especially
 “ when the Distemper seems hardly supe-
 “ rable without it, and a little delay and
 “ over-sight in this Point, as well as in War,
 “ puts the matter past retrieving.

An Instance of this we had of the five
Scots Boys last Summer, 1710, who were
 driven to Sea in a small Boat by force of
 Weather, from *St. Andrews* to *Aberdeen*, four
 whereof live to this Day, and the other came
 alive ashore, after a Weeks abstinence from
 Meat or Drink. But the Dr. goes on :

“ I know large Bleedings (nay even in
 “ *Pleurisies*, *Peripneumonia’s*, *Angina’s*, &c.) are
 “ much

“ much dreaded by many ; not of the un-
 “ considering Vulgar, but even Persons of all
 “ Degrees and Education, and even by ma-
 “ ny Physicians of great Name. And ’twere
 “ easie to cite great Authors, who have ei-
 “ ther exprefs’d their fears of it, or so mince
 “ the Matter, that their Apprehensions are
 “ obvious enough. And he that frequent-
 “ ly uses it cannot escape Aspersions (*exper-
 tus loquor*) be the Advantage to the Pati-
 “ ent never so remarkable, and must expect,
 “ notwithstanding that, always to be dread-
 “ ed for a Physician ; but must at least
 “ be sure to be greatly censur’d, if, either
 “ through the greatness of the Distemper,
 “ or the very common unmanageableness of
 “ the Patient, either from his own Inclina-
 “ tion, or others Suggestion, success attend
 “ it not. But certainly he must have a strict
 “ Account to give, who, taking charge of
 “ Lives, will, to their Loss, or, at least ha-
 “ zard, be rather sway’d by others, or his
 “ own Fear, than his Judgment ; but a much
 “ stricter, if a prospect of Interest, by com-
 “ plying with Peoples Inclinations (which
 “ I am afraid is too common among pre-
 “ tenders to Physick) tempt him to deflect
 “ from it. And therefore he ought not to
 “ be concerned at these *bruta fulmina*, but
 “ follow the dictates of his Reason and Con-
 “ science. For my own part, though I am
 “ far from thinking *Phlebotomy* proper for the
 “ Cure of all Diseases, or even to be large-
 “ ly administred in most, but that a solid
 “ Judgment (which I am sure the greatest
 “ number of the Censurers of it have not)
 “ from *Substantial Grounds* in *Physick*, ought
 “ to determine when it is to be advised, and
 “ when

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“ when not ; yet I think it may be more fre-
 “ quently, and in many Cases much more co-
 “ piously used, than (at least in the Place
 “ where I live) it is, or will be permitted to
 “ be. And I should be oblig’d to him that
 “ should convince me of my Mistake in this
 “ Notion (having hitherto thought I had Rea-
 “ son, but I am sure have had Experience,
 “ to confirm me in a good Opinion of it) par-
 “ ticularly in relation to Apoplexies, as not
 “ having been so happy in my Reading, to
 “ meet with that Satisfaction ; or shall pro-
 “ pose such other certain Remedies or Me-
 “ thods of Cure, as wou’d supercede its use in
 “ this, or other Cases, that I think require it.
 “ *Essay concerning Apoplexies, pag. 184.*

An Eminent and Honest Physician in the City, who perus’d my Papers, upon discoursing with him on a larger *Phlebotomy* in Fevers, made me this Answer, I have, says he, been long ago convinc’d that a considerable larger *Phlebotomy* than we practice, wou’d be much better many times than whole Gally-Pots full of Medicines for the Patient. But here he gravely paus’d, and then said, our Hands in this place are perfectly ty’d up by Apothecaries, Nurses and old Women, who impose upon the credulous Mother, Wife, Brother, Sister, and other Friends, whom they by joint and united force attack, till they are overcome ; so that it wou’d require so much time to convince them, that one or two Patients, what with their Clamour, and their own Fears rais’d on this Account, wou’d take up all a Man’s time ; and other Physicians wou’d silyly join ’em, commending their Skill and Boldness, and so without more ado, run away with all the Practice, and it will never be otherwise in your nor my Days.

He

He ask'd me if it were so in other Countries where I had been; I told him freely, I believ'd it was not so in any other Nation that is Civiliz'd upon the face of the whole Earth.

I proceed now to give some instances of Cures. 'Twere an easie matter to give numerous instances of Patients recovered in Malignant (as they call them) and Petechial Fevers with the ordinary Evacuations; for such there are in the worst of Practices, as I shew towards the close of this Discourse, altho' many may indeed require no other; but then this must be done by true curative Indications, and it must be shew'd by the same Rules where a far greater Evacuation than is noted by most Modern Physicall Writers, is likewise as necessary.

Here I design to give some of these last instances for Example; and shall produce more, if more are needful.

Mr. *George Lapye* Merchant of *Lisbon*, a young strong Man, Black Complexion'd, Aged about Twenty Eight, of the Cardinal size, 150 Pounds weight, had a *Συρεχνη Spuria*. His Pulse was not frequenter than the Natural, but the Fever appear'd by heat in the Muscles, and a sharper or harder Pulse, by his Tongue, Thirst, and an intensely colour'd Urine, and great Pain in the upper part of the Thigh just below the Groin, which was inflam'd, tho' his Thirst was not considerable in respect to the Pain: I put him hard to it, whether he had not reason to blame his want of Virtue and Prudence; and that this was the punishment often consequent on unchast Embraces. He protested in a most solemn manner, that he had not; nevertheless (altho' here I must

own this incredulity to have been my error) I had still a suspicion, for which Reason I forbore Phlebotomy except once, when the Pain caus'd watching for some Nights, and only made external Applications, of proper suppurative Medicines for Twelve Days. He had Exacerbation every day. Having try'd the Cupping-Glasses also, both to Collect and Attenuate that too viscous Matter, but all in vain, for the part grew only inflam'd with a deep dy which was next to Livid: Whereupon I immediately began the great Evacuation, and every Morning order'd $\frac{3}{4}$ x. of Blood, till I had taken, reckoning the first, about $\text{lb iv. } \frac{3}{4}$ viii.

I continued the former Applications, and in Ten Days the Tumour fill'd sufficiently and suppurated: It was larger than Venereal Bubo's or Abscesses, and the Matter had a better consistency and colour than these, and the situation was lower than their Nursery. It ran only between the *Cutis vera* and the Muscles transversly on the Thigh. The quickness of the Cure shew'd it not to be Venereal; for it was entirely well in about the time that a large *Furunculus* or *Boyl* usually is Cur'd.

Here is to be observed two things much contrary to the crowd of Physical Writers.

First, They wou'd not have bled so small a Man above half this quantity; for a Man of 140 or 150 weight is but a small Man, in comparison with the Cardinal sizes, 200, 250, and 300. Next, finding his Pulse not much different from the natural, they wou'd have given it the name of a Malignant; and again finding Exacerbation, they wou'd without doubt have prescrib'd the *Cortex*, and Cupping with Scarification, and *Vesicatories* to draw forth the Poison. Poor Poison gets

gets many a box on the Ear. And then to be sure that part of the Morbifick Matter, which had by the *pituitas* deposited it self on the top of the Thigh, wou'd not have suppurated, because of the great *Plethora* in the Vessels; nay, probably it wou'd have Gangren'd; which being so nigh to the Trunk of the great Artery, & *vena cava ascendens*, wou'd quickly have dispatch'd him for the Bills of Mortality, under the Title of a *Malignant Fever*.

Secondly, It is to be observed, that they assert Blood-letting to hinder Suppuration, and that they don't advise it even in a moderate quantity at any time to farther it: However *N. B.* That not only *Phlebotomy*, but twice the ordinary quantity prescrib'd in their Cures of *Fevers*, promotes the Suppuration of Tumours in some Cases, which is prov'd by the Cure both of the Fever and Tumour.

Capt. *Brown* of *Jersey*, whose Ship is ordinarily consign'd to Mr. *Lamprey* Senior of *Lisbon* Merchant, a Man about Thirty years old, of the Cardinal size 150, Fair Complexion'd, about five Feet five Inches high, well Muscl'd, having stood too long a time in Mud and Water, to examine his Ship's bottom, had all the same Symptoms as the other, only his Pulse was a little more frequent, and but a very little more, yet smart in the pulsation, with an Inflammation and great Pain on the Neck, just about the external *Jugular-Vein* and *Carotide-Artery*, which I treated as a *Spuria*; I shou'd have said *Malignant*, to be fashionable.

I proceeded to the great Evacuation immediately, *f. v. f. bis per diem, singulis vicibus ad 3 x.* I wou'd have carry'd it as high as in the former

case, to prevent a great Impoſthumation in ſuch a dangerous place, even altho' I had reaſon to think he was not ſo ſtrong a Man as Mr. *Lapye*. But he was one of the moſt timorous Creatures to be bled that ever I met with, and he wou'd not admit any more *Venaſection* after 1b iij. 3 iv. Proper external Applications were made, *Cataplaſms* of the *Farina's*, with *Axung. Porcin. Ol. Lini, Vitell. Ovor.* and the *Phlegmon* Suppurated in about fourteen or fifteen Days duely. *N. B.* Such kind of Abſceſſes muſt be patiently endur'd by the Patient, and attended till its full time, *i. e.* till the *Cutis* is as ſoft, and the Colour changeth from a Red to a Dark, between a Red and a Livid : I ſay till the *Cutis* is as ſoft as you can reaſonably expect (which muſt be determin'd by the depth it lyeth) before Apertion is made, which ought to be the whole length of the Abſceſs; if ſome Tendon or Blood Veſſel don't prohibit.

There was a diſcharge of about 3 iv. of well digeſted and concocted Matter, and the *Artery* and *Vein* lay open to view about two Inches, and more ; the *Abſceſs* had undermin'd them, and they lay looſe that one might have pull'd 'em above the brims of the *Abſceſs* with his Fingers. Upon this account that a notable quantity of Blood is carry'd to the Brain by that Artery, for fear it ſhou'd receive damage from the Air, 'twas dreſs'd in a Minute or two, and within the Air of a Chaffin-diſh of Coals held in the hand of a Servant. This was Cur'd in about three Weeks, and the *Fever* left him about the Twelfth day after he was under cure.

A Boy of Ten or Eleven year old, Son of Mr. *Dyer* Ship-Carpenter in *Liſbon*, was debauch'd by our Sailors (Men of Wars Crews) who came to his

his House which was a Tavern, and took Brutish pleasure to make the Child Drunk; 'twas an easy matter to entice the Innocent with *Punch*, the most palatable Liquor in the World, and the most pernicious to *British* Subjects. He was dayly intoxicated, and diverted the *John's* with his apish Tricks for some Months. But the Child and Parents (I mean the Mother, who was always at home; and might have prevented it, had it not been for her sordid Avarice of Gain from these Miscreants) were shortly punished, for He was taken with a *Synochal putrid Fever*, continual, but with *Exacerbation* about the Evening every Day; his Pulse beat about 95 or 100 per Minute. I prescribed instantly *Venesection* $\frac{3}{4}$ v. and as much the following Day. There appear'd Inflammation on both Arms from the *Articulation* of the *Scapula* and *Humerus* to the Elbow; on one Thigh the whole length among the Muscles; on the *Scrobiculum Cordis*; and on one Shin. I wou'd have bled him more, but the Mother wou'd not admit of it. Proper external applications were us'd, he had some Papers of the *Pulv. à Chel. Comp.* and a moderate Cordial Julep of *Aq. Ceras. Nigr. aq. Epidem.* or rather *Spiritus Epidemic.* $\frac{3}{4}$ i. to $\frac{1}{2}$ lb. i. of the former, with $\frac{3}{4}$ ij. of *Syr. Caryophyllor.* to take three or four Spoonfuls of, every two or three Hours.

These Parts all *Suppurated* in Ten Days. From the Arm there was discharg'd as much laudable Pus as fill'd two ordinary Pewter Plates. The *Abscess* was laid open the whole length, between the *Articulations* of the Shoulder and the Elbow; only there was an interruption near the middle, where it run under a Muscle about two or three Inches.

The *Abscess* of the Thigh was from the Knee to the Groin, where the Tumour observ'd its figure according to that of the part it was lodg'd in; it was elevated in the Groin like a Half-penny Fine Roll, but Rounder. I thought fit to open it here because the Matter presented; but then the chief Indication was to make *Apertion* in the most depending part, if all the Matter cou'd be drein'd so. Wherefore 'twas laid open as far as it run under the *Cutis vera*, about two Inches in length, a little above the Knee on the inside of the Thigh, till it dip'd between the great Muscles; from which there was a discharge of *Pus* about as much as from the Arm or more, one Plate full at first, and two or three Days after a second, for some Membranes between the Muscles had interrupted it.

That on the *Scrobiculum Cordis* was about as big as an Egg, and t'other on his Shin scarce half as big.

One of the Arms had not half as much Matter as the other, and run only under the *Cutis*.

The Fever left him upon opening the Impo-
stumes, and he was Cur'd in about a Month of these, but was so weakned that he could not Walk scarcely for a Month more, and took near four Months in all before he recover'd his former vigour.

This Fever wou'd have been call'd a most prodigious *Malignant* by some, and indeed it was the more so, or at least dangerous, because he was not duely Blooded. There was a discharge of *Pus* by a modest Computation, lb ii. 3 vi.

He was a Sturdy, Tar-constitution'd Boy, and shou'd have been Bled 3 v. twice a day four times, and this wou'd have diminish'd the Stock of the

Causa

Causa Materialis, that there wou'd have been but some small *metastasis*, it may be on one Arm, not exceeding three or four Ounces.

I next will give a few instances of some downright poisonous *Fevers*, to speak modestly in the Practical Cant.

Mrs. *Archdeacon* a Gentlewoman, Wife to Mr. *Archdeacon* late of *Dublin* Merchant, had a *Fever* which I took to be the *Συεχὴ ἀλυσίη*, She was of the Cardinal Size 200 weight, Aged about 45, Strong, well Muscl'd, but thro' some late Misfortunes of her Husbands, was something *Hysterick*, tho' otherwise a hearty, jovial Woman, about five Foot high, or more. Her Pulse was but small, beat about 80 per Minute, had great internal Heat, her Tongue dry and of an ill Colour, had some Thirst, Urine not well saturated with its Contents, and some *Petechia* upon her Body, with daily *Exacerbation*.

I prescrib'd the great Evacuation $\frac{3}{4}$ x. per vicem, and repeated it sometimes twice a day, Morning and at Night, till $\frac{3}{4}$ iij. $\frac{3}{4}$ iv. was taken. Then she had *Tart. emet. gr. v.* I did not raise the Evacuation so high as that which I call the ordinary one only, for People of this Cardinal Size; because I knew she was somewhat *Hysterical* before this happen'd, and the Blood is more dispirited on this account. She had some *Vesicatories* and the following Medicines.

Rx Pulv. è Chel. Comp. Sperm. Cet. a a. $\frac{3}{4}$ ij. Croc. Anglic. vel Gallic. $\frac{3}{4}$ i. Camphor. gr. vi. MS. f. f. a. pulv. dividendus in sex partes aequales. quarum unam capiat 8va quaq; hora ex cochl. v. vel. vi. Julep. Sequentis.

92 *New and Exact Observations*

Rx. *Aq. Cerasor. nigr. Scorzoner. vel boragin. a. a.*
 $\mathfrak{H}\beta$. *aq. Epidem.* \mathfrak{z} i β . *Syrup. Granator. Citr.*
a. a. \mathfrak{z} vi. *Caryophyllor.* \mathfrak{z} i. *MS. f. f. a.*
Fulep. cujus ad libitum bibat Cochl. vi.

She began the use of the *Antefebriticks*, after we had made the necessary *Depletion*, and continued the use of 'em, with *Emulsions* sometimes. She had some *Delirium* after the sixth day; and the signs of *Remission* began about the fourteenth, which appear'd in the *Urine*, still not so high colour'd as is usual, and in two or three days it was intirely gone with the *Fever*; an *Hypostasis* of a *White-sort* appearing then.

She had *Paregoricks* after the remission of the Symptoms, and all the time, took *Hen-broath* \mathfrak{z} iii, or iv, every fourth Hour.

After being purg'd twice with

Rx *Aq. font. calefact.* $\mathfrak{H}\beta$. *Sal. Cathart.* \mathfrak{z} β . *Man-*
na opt. Calabrin. \mathfrak{z} ii. *Syr. Ros. Solut.* \mathfrak{z} i. *Ms.*
f. a. & f. Potio Cathartica.

I dismiss'd her Cur'd.

Mr. John Williams, Master or Pilot to a *Genoese* Merchant-Ship, who afterward marry'd the Mother of the Boy whose Case I gave, had a *Fever* with the *Petechia*, which I treated for a *Συρεχὴν Spuria*. He was a Man of the Cardinal size, 150, and something above; aged Thirty two, Black Complexion'd, well Muscl'd, and about full five Foot high. His Pulse was not much differing from the natural, had *Petechia* over his Body of the Brown sort, his Tongue dry and Black, no great Thirst, great Heat which appear'd to the touch, and yet the *Urine* not of a Deep Colour; he had *Exacerbation* every other day, and the *Stupor* follow'd these Symptoms about the fifth or sixth. He

He was Blooded (*more solita*) to ℥ iv. had an Emetick, Vesicatories, a Bolus every eighth Hour.

Rx Pulv. è chel. comp. vel Lapid. Goæ. Sperm. Ceti. a a. ʒ ii. Camph. gr. vi. Confect. alkerm. incomplet. q. s. Ms. f. f. a. Elect. dividend. in sex Bolos aequales.

He had Hen-broath every fourth Hour, an Emulsion, and Barley-water with some Liquorish, as much as he had occasion, that is, as much as he wou'd drink when put to his Head.

He was purg'd on the Eleventh day with

Rx Sen. mundat. recent. ʒ β. Sal. Tartar. ʒ i. Infundan. f. a. in Font. fervent. ʒ iii. Colatura adde Manna. Syrup. Rosar. Damascen. a a. ʒ i. Ms. f. Potio Cathartica.

On the Thirteenth he had some Nubecula in the Urine, and the Symptoms began to remit; had the Cathartick repeated the Fifteenth, and a Paregorick at Night, and so every Night till the Stupor quite left him about the Nineteenth.

He never had a good Hypostasis, however 'twas deeper colour'd than in the other Case. He took ℥ iv. Decoct. Cort. prophylaxios gratia.

This indeed was a dangerous Fever, and wou'd have been call'd highly Malignant and Poisonous, and treated with one fourth of the Evacuation which I made use of. Alexipharmack Boluses every fourth Hour wou'd have been prescrib'd for it, it may be a Week, and then being sure of the Exacerbation, the Cortex must have succeeded even at this time, where there is such a Plethora and heat, that multiplication of such Med'cines must in a manner bake the Patient: And if a Man of this Cardinal size escape at last, it is next to a miracle.

94 *New and Exact Observations*

Mary Lord, a Woman addicted to an undue use of all spirituous Liquors, had such a *Fever* as the first Case, but more *Petechia* and blacker than any of the other two.

She was of the Cardinal size 200, very Black Complexion'd for an *European*, about five Foot high, Aged about Fifty four; before this a pretty strong Woman.

She had the great Evacuation to $\text{lb iv. } \frac{3}{4}$ ii. and recover'd, &c.

As I have said before, all our fine Speculations are but air and emptiness, if they won't answer in Practice: In this respect, the whole hinge of the matter turns in observing accurately the just Quantities and Qualities of every thing, the true quantity of the Patient's Body, the true quantity of Blood to be taken, the true quantities as well as qualities of Med'cines to be us'd; therefore I think fit to communicate here the excellent use of *Camphir* in these *Fevers*; and next, that I have found by experience that a Grain and half, or two gr. is the greatest Dose to be given, and that more than Six in Twenty four Hours do often hurt.

By the *Etiological* account of this Remedy, I have (but particularly because of its efficaciousness in these *Fevers*) been induc'd to believe, that there is at last a considerable dissolution of the Blood, in this kind of *Fevers*, whether it is because it was for the first Days more Viscid than any other state of the Blood, and in this time, some of the Coarser parts of the perspirable matter shut up almost all the Perspiratory Glands, and when it comes at last to be broke down, and attenuated, tho' it may be fitter now to pass that way, yet all the avenues and out-lets are stop'd up: Or whether it is because some deleterious fermentative

Particles

Particles have crept into the Mass of Blood, either from the Air by the Lungs, or from our Food, as may be observ'd from the bad effects roasted Chestnuts have, if eat but ten or twelve Hours after they are cold, being a Substance peculiarly adapted to receive a greater quantity of Air than most other Eatables; but this is only occasioned from a too great quantity of Air (even of it self healthy) which gets access this way; therefore it generally by its attack reacheth no farther than the Stomach and Intestines, and is felt by *Cholick* and *Wind*, or both together. On the other hand, when these fermentative Particles get the short way into the Blood, like all other Ferments they must lie quiet, both till they receive a sufficient degree of Heat to assist their Operation, and till they also get a sufficient quantity of proper fluid to actuate and dissolve them; and as Heat in the Mass of Blood depends on its plenty and richness, both these will be found in the greatest degree that is consistent with health, about the time of the full Monthly *Plethora*. I have shew'd already if we catch Cold at this time, in the Hours of the greatest Perspiration, how this *Plethora* may be heightned by an addition to five or six Pounds; and in this Case there will be a quantity of fluid too much for these fermentative Particles to act upon; and next there must always be a good space in a Vessel left for the admission of fresh Air, as well as for the Fluid to rarify and extend it self; but here the Vessels are full, and till they are Depleted to the true quantity, either by *Venesection*, or by their long Abstinence whereby the Distemper wastes it self, no true Fermentation or Attenuation can succeed. *Venesection* does it at once; whereas if the *Plethora* is great,
and

and the *Cohesion* extraordinary, Abstinence can never do it, unless that happens within the utmost time a Man can be preserv'd without food, which we may from many experiences in the Cure of Acute Distempers, as well as from the Instance of the *Scots-Boys*, determine to be about Seven days. Because after this the *impedimentum* will be manifestly greater than the *momentum rarefactionis*, which at this period of time ought to commence rather from Food than Med'cine; for by my *Postulatum* (which is so evident that I think no Man can deny it) there is still a considerable quantity of Blood more than is proportion'd to the Vessels for a due Circulation, and there must also for this due Circulation, be a reciprocal *springiness* and *elasticity* in their *Fibres*, which at this time is lost.

The excellent Dr. *Pitcairn* has abundantly prov'd that the greatest work of Digestion is perform'd by Attrition, which wholly again depends on the strength of the *Fibres*; and if so, all the other Coctions must likewise depend on it, according to the texture and several dispositions of the Vessels and *Viscera* through which the Chyle and Nutritious Juice do pass. And for nutrition, there must be a great room or capacity in the Vessels to receive an equal proportion of Chyliferous Juices, (for a huge great quantity of these makes a wonderful small matter of true Nourishment, but at last, after a great many Circulations round the Body) which is fill'd up here by this accidental *Plethora*.

Now if a great space or room is requir'd but to prepare a small matter of nourishment truly necessary, yet sufficient to sustain us when in Health and Strength, and a greater nourishment

is requir'd, and there is less room for the preparation of the nutritious liquors of our Food, the consequence is apparent, that there is an utter inability for Nutrition every way; And this is the Case after want of Nourishment about Seven days through an high *Plethora*.

I know it may be alledg'd, that Patients in those Distempers do still take some nourishment from the Broaths and Juleps which are given frequently; so I own they do, and this makes them live a day or two longer it may be, before the contractile Fibres which perform the great work of Nutrition have lost their spring and energy, and then this is brought to pass; so whether it happens on the Ninth or the Eleventh Day, the thing is still the same, all the natural Powers and Faculties being destroy'd, there can be no more Nutrition, and the Person must die.

From whence it followeth, That they who have gradually smaller *Plethora's*, will live gradually so many days longer, because they can admit daily some small degree of nourishment more than others, which may protract Life to the Twenty first day of the *Fever*; but the great *impedimentum* still remaining much the same, and all the natural Powers brought to their last degree of Weakness consistent with Life, this must cease.

As all *Fevers* which are Acute, and depend on their own internal Causes have *Plethora's*, a *lensor* and *viscosity* is the first and sure consequent of that; so the Remedy of the first is Diminution, and that of the *Lensor* is Rarefaction; now which ever way we can bring this Diminution to pass, if it is done timely, the Rarefaction will as necessarily follow; and if that must necessarily precede, the sooner the better, and then it is as evident,

dent, suppose the necessary Diminution thus done, that still the Rarefaction will be longer before it begins in this kind of *Fever*, and when begun, must be much greater, according to the degree of the greatness of the Viscosity.

Upon the whole, this is the *Corollary*, that these kind of *Fevers* vulgarly call'd *Malignant*, attended often with *Petechial* eruptions, have a greater degree of *Viscosity* in the Blood than other *Fevers*, are longer before the *Rarefaction* succeeds; and if ever it does, it is so much the more violent, and there is a great dissolution of the *Globules*, which is kept within bounds by *Camphir*, more than any Medicament or Remedy in the *Materia Medica*: For first no Oyl or Spirit can be attain'd from it by Art of Chymistry. Next, The Learned and Ingenious Dr. *Havers* shew'd us by several proper Experiments, that it resisted Digestion, added to a Menstruum in the same proportion that another Natural body did it, which was as Analogous to it as we perhaps can find two things. Oyl of *Turpentine* resembles it in Smell to a great degree, in Taste and Inflammability, yet the Menstruum performs Digestion in four Hours with a proportion of this; but with a like proportion of the *Camphire*, it wou'd not alter the Meat or Raw Flesh a bit. It is then a Balsam, by a peculiar preheminence of Texture adapted to resist the greatest degrees of Putrefaction which human Blood is capable of; and the impression made on the Blood lasts remarkably long.

Here I wou'd not be understood as if I had weigh'd every one of my Patients, or of those whom I have mention'd in this Discourse, for weighing here and there one of all the Cardinal Sizes, and doing it now and then your self and
Friend

Friend together for Diversion, will make the thing so familiar to one, that he'll be able at sight to tell any Man's Weight within less than a Dozen of Pounds: And this is enough to do all that is requir'd, for there is no Conjuring in this matter, other than what any Person soever is capable of doing.

Gometus Fareira, in his *Medicina Nova, Cap. de Phrenit.* proposeth these Objections against the Opinion of the Ancients, That *Phrenitis* and *Delirium* proceed from an Inflammation of the *Meninges*, and Vessels distributed thro' the substance of the Brain.

His chief Objection is grounded on this Maxim of Philosophy, *viz.* That this is to be reckoned a natural Effect which necessarily follows the presence of its Cause; and which ceaseth in the same manner in its absence, from which he subsumes and forms a Syllogism, *viz.* But *Fever*, *Phrenitis* and *Delirium*, may be absent singly, or altogether, while there is a manifest Inflammation of the Teguments and Substance of the Brain; Therefore *Fever*, *Phrenit.* and *Delir.* are not the effects of an Inflammation of the *Meninges* or substance of the Brain.

We distinguish the *Minor*: But *Fever*, *Phrenitis* and *Delirium*, may be absent where there is a manifest partial Inflammation, it is true: But that one or two of these Effects can be absent where there is a total or universal Inflammation of the Coats and Substance of the Brain, we deny.

For there is a mighty difference between such an Inflammation which this Authour supposeth to be actually in an incis'd Wound, where both the Hairy-Scalp and Cranium are cut through,
and

and the *Dura* and *Pia mater* are likewise wounded (inſomuch that they thruſt themſelves forth thro' the Lips of the Wound) and the Caſe as it is deſcrib'd by me in the Hiſtory of Cure for *Fevers*, attended with theſe grievous, and acute, heavy Symptoms, *Stupor*, *Delirium*, *Phrenitis*, where I hope what I have ſaid will ſatisfy the impartial; becauſe here there is always a vaſt load of Morbiſick Matter within the Veſſels, (and from ſome fault, defect or debility in ſome Organick or Spermatick part of the Body) which after ſome Ebullition a longer or ſhorter ſpace for its atténuation, makes a *Fluxion* or *Metaſtaſis* on that weak part which was prepar'd for its reception; becauſe it was not capable of reſiſtance.

And this is the Reaſon that there is no one part of our Body excepted from theſe Fluxions, *Lungs*, *Pleura*, *Diaphragm*, *Mediaſtinum*, *Viſcera*, *Muſcles*, *Brain*, &c.

Moreover I have ſhew'd from experience in Cure, that in theſe Caſes often, leſs than two Ounces of the Morbiſick Matter is only diſcharg'd on the particular part affected above the Reſt, which ſometimes is not one Thirtieth part of the whole, all the reſt remaining within the Veſſels; throughout the whole circulatory bounds, which being about ſb v. requires an Evacuation from the Maſs by *Veneſection* of four Pounds at leaſt, in order that Nature may do her ſelf juſtice by help of the *Fever*, at laſt to bring the Blood to an *equilibrium* by a *Criſis*: Whereby I can ſay, from frequent ſurprizing ſucceſs, that a ſafe and ſpeedy Cure will follow. Whatever this *Spaniard* might think about Evacuation in *Fevers*, I oppoſe to Him all the Learned Experienc'd Phyſicians now alive in *Portugal*; particularly I can appeal to the
Larned

Learned and Eminent Dr. *Henry Moroon*, and Dr. *Lopez Gill*, oldest Physicians both to His late Majesty *Dom Pedro*, and *Dom. Juan* his Son, present King of *Portugal*, with both whom I have been in consultation several times, and likewise with the other Physician to the Family, the Learned Dr. *Palmella*.

When the Physician who came overlately with the Q. of *Portugal* from *Germany* had not been above (four or five Months in the Country, and in the Winter Season, where the Air is excessively Cold, by reason of most prodigious Rains which fall for three Months at least, and two, or three more, but more moderately as the Spring advanceth, the Walls of all the Houses, and every thing within them being overflow'd with humidity, that our Books on a Table lying loose shall beswell'd so, that we can't shut them; which proves the more intolerable, because *Portugal* is a Country that has very little Fire, especially about *Lisbon*.) He was seiz'd with one of these Fevers, and these Gentlemen whom I have mention'd, sav'd his Life, by as great an Evacuation, to the amazement of the *German* Gentleman, who is, by general acknowledgment, a very Learned Man himself. This is a pretty instance I think (and I cou'd give many more such) against those Northern Physicians, who wou'd make us believe that the great success of *Phlebotomy* in *Spain* and *Portugal* in Fevers, is intirely owing to the Heat of the Countries.

And I wou'd farther ask Them a Reason, If the highest *Plethora's* of *Rheumatisms* in *Portugal* are no greater, than we find them to be here in *England*; why Fevers and other Acute Diseases shou'd

L

not

not have proportionable *Plethora's*; and if so, why there ought not to be as great an Evacuation?

And here I will do justice to a Physician, tho' a more private Person than any of these, who for Medical Learning and Eloquence is inferiour to none in *Spain* and *Portugal*, as far as I am capable to judge, and without prejudice to any of the rest, viz. the present Dr. *Fareira* of *Lisbon*, to whom, as a candid and competent Judge, I will appeal against *Fareira* of *Spain*.

For in Stuporous or Delirious Cases of *Fevers*, which I have spoke of, a part only of the Morbifick Matter is discharg'd on the fine Arteries in all their various Ramifications and Plexus's within the substance of the whole Brain, and into the *Dura*, but more especially the *Pia Mater*, in its manifold mazes and circumvolutions, where-with it contains and involveth the whole substance of the *Cerebrum* and *Cerebellum*, whence a considerable pressure of the Albugineous substance must necessarily follow, which will as necessarily produce the Symptom of *Stupor*, *Phrenitis* or *Delirium*. And as there is no removing of this load from the Part that principally thus suffers by the most *immediate* derivation that can be made in the whole Body, like the Case the Learned *Fareira* speaks of, where the Matter congested by Fluxion is only in that part of the Brain near the narrow limits of the external wound, and has sufficient vent for its small quantity to discharge its self by the Orifice suppos'd; there remains no other Indication (in the first place) like that of Revulsion, from the more distant Veins of the Body, and next, derivation, if you please, from the Jugulars; which still is nothing so near as in that Instance.

And

And after all, if we shou'd suppose in our Case of a *Fever* with these Acute Symptoms, that such an Apertion were made in the Scull with a like incision of the *Meninges* and Brain, as this Author supposeth in a Wound made with a sharp edg'd Instrument by accident, a very inconsiderable quantity of the lodg'd Matter cou'd be so discharg'd; and if it were all discharged by this vent, it wou'd be far from curing the *Fever*, when thirty times as much still remains in the other Blood Vessels of the Body.

Again, Let us reflect on People knock'd down with the blow of a Staff, &c. Instances of which we daily see in our Streets, where the Brain receives such a violent concussion, that the Person lies like a dead Body for some space of time thereafter; the universal disturbance sufficiently appears by the Vertigo or Giddiness, the Elevation of the Eyes, the Swelling and Inflammation of the Vessels on the *Cornea*, by Head-ach and confusion of sight: Yet ordinarily, if there is no Fracture or Dépression of the Scull, this Fluxion and all these Symptoms are Discuss'd in less than a Week's time. How much sooner then must a Fluxion and Inflammation only of a Straws-breadth or there about externally, near the brims of a Wound made in the Cranium and Brain by an Instrument with an edge, which meets nothing near with a like resistance, as where the Impression is deriv'd from a blunt Instrument?

He says again, if *Phrenitis* and *Delirium* were the effects of an Inflammation of the *Meninges*, &c. he can see no reason why they shou'd not as soon appear as the *Fever* in a *Pleurisy*; for in it the *Fever* begins with the pain in the Side, or as soon as the translation of that portion of the Morbifick Matter on the *Pleura*.

But it is so far from this, that those Symptoms don't sometimes succeed till the sixth or seventh day of the *Fever*: Therefore *Delirium*, *Phrenitis*, don't depend on the *Fever* or Inflammation of the Brain. To this we answer in general, that there is no precise time determin'd for any of all these *Metastases*, altho' in *Pleurisies* and *Angina's* they ordinarily appear near as soon as the *Fever*. Next, their being a shorter distance from the Heart, than in the Case where the Brain is affected, the velocity of the Blood and Heat is greater, which may be a great reason of a quicker separation.

Again, we may as well say that the Crisis or sensible Evacuation, which does not happen till twice seven days in some *Fevers*, is not produc'd by the *Fever*, because it falls out in so many days after its appearance. So we may say in the *Small-pox*, where the Pustles don't break out till the fourth day after the *Fever*, therefore the *Fever* is no ways the cause of this Eruption; but this is absurd, therefore such is the consequence infer'd by *Fareira*.

Indeed a *Fever* may happen both with and without *Delirium*, which may depend more on Rarefaction than Repletion. That *Fever* which commonly attends our wounded Soldiers the first two or three Days, is of the first kind, which I have taken notice of already.

A singular Instance of this other I had, where I was concern'd with that skilful Surgeon Mr. *Pier* of *Clerken-well*, in Mr. *Vancesterfield*, Steward to His Excellency Mr. *Methuen* Ambassador in *Portugal*.

By a fall down a pair of very steep Stairs he had a Wound that divided the *Cutis Carnosa* on the Forehead and the Hairy Scalp, from the inner *Canthus* of the Eye up to the *Vertex*. He was

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Stuporous two or three days, and Delirious all the rest of the Week he receiv'd it. Altho' this *Fever* took its beginning from Tumour, Pain, Inflammation of the *Meninges*, yet it is ascertain that continuation of acute, violent Pain, must proportionably diminish Perspiration, and consequently augment the Mass of Blood, especially if the accident happen while the Vessels are full of Chyle, as we had some good Reasons to believe was the Case with our Patient; besides being a well Muscl'd Brawny little Man about 130 pound weight, and one who lov'd generous Liquors, was a Reason to suppose a *Plethora* the more on this account.

Thus reckoning the Symptoms backwards in this *Fever* arising from an external Cause, as the *Procatartick*, it amounts to the same thing just, as if we were to measure how many Feet a certain Room contains, whether we measure forward or backward we find our account, and that is all which is requir'd. What we had to consider was, that the Rarefaction of the Blood principally carry'd on this *Fever*, therefore *Venesection* ought to be less. But in regard of a repletion likewise, which we reasonably supposed three Pounds above the ordinary Mass of Blood, we made Evacuation about ℥ iii. by bleeding, which succeeded to expectation. *Hippocrates* and *Galen* found this by experience, therefore they constantly admonish'd that a chief Indication of Venesection in all Distempers where there is Pain, is to be taken from the greatness and permanency of it.

Therefore in a *Paraphrenitis* where the Delirium has its intervals, and the Patient's understanding is as clear between whiles as a Man in a *Fever* can have it, there is no such indication for Blood-letting. Here Rarefaction of the Blood is to be

consider'd more than the *Plethora*; but still we suppose that this Symptom arriveth late after the sixth or seventh day; for if it falls out in the beginning of the *Fever*, I begin the great Evacuation regularly, yet stop at a Pound or two less than the greatest quantity, unless the symptom shou'd continue, and then commonly I find it safest to carry the Evacuation near the highest, altho' sometimes a Pound less may do; as for Instance, if among the Causes of the *Fever* there was also an evident one, such as some violent passion of the Mind.

I cannot say that Blood-letting may be determin'd by my Canon so exactly in the Northern Climates, as I can affirm it to be in the Southern, because I have not practis'd in them since I was satisfied of its truth; yet I am confident a larger Venesection in the *Confluent Small-pox*, and the *Fevers* with the symptoms I have describ'd, and in the Constitutions I have particulariz'd, than is ordinarily us'd, wou'd do much good, and might preserve many Lives in a year.

The Voice of the People for observation both of Occurrences in the Body Politick, and in the Body Natural, is not always to be slighted. For tho' some particular Persons ought to discover them first, who are indeed the proper Judges, yet emulation, envy, faction, embarrass the Doctors of the first sometimes, of which confusion of thought, real mistakes and oversights are the necessary consequents; as prejudices of Education, popular and catholick Errors of Men professing an Art daily capable of improvement, as Physick is in its small branches; fear of being generally condemn'd as an Innovator, as a dangerous Practitioner, for offering but one step out of the common

mon rode (tho' as clear an Indication shou'd present for it, as meeting of High-way Men, or a Coach or a Cart in a narrow place for the other) Emulation, Envy, and I wish I cou'd not say fordid Avarice, do make fatal miscarriages of the Doctors of the Body Natural ; for a general fault is no bodies fault.

Yet the People may see the unfortunate stroaks both of the one and the other, altho' they don't know the Remedy ; and it is high time for the Doctors to look about them, when the People make those discoveries : A new Remedy is then ordinarily that which effectually Cures. It is but in every body's Mouth, we meet it in all Conversation of Men, Learned and Unlearned. The Author of one of the publick Prints, lately spent a whole Paper on the subject, alledging *That all, or most, of our Nobility or Gentry who come in the Physicians hands for the Small-pox most certainly Die, whereas it is evident that Poor People and their Children who make no use of them for this Distemper, escape much better.*

Whether Baking of Patients with Bolus's of *Alexipharmacks* and *Cardiacks*, or given in whatever form every fourth Hour, (Venesection being neglected or slubber'd over) is not worse than leaving them to Time and Nature for to relieve her self, I leave to the Judgment of the candid Learned, tho' I must own that it is mine.

That National dangerous Errors may prevail among Physicians, is evident from what befell *Germany* and *Holland* by *Paracelsus* and *Helmont*, whose Followers wou'd not let Blood in the Distempers where it was found to be of absolute use by the Ancients, such as *Fevers*, *Quinsies*, *Pleurisies*, &c. and ever will be to the end of the World, unless mankind shou'd get a new and

different organization of Body: And so this leaven crept over into *England* also, and prevail'd so far, that it was thought almost equal to Murder, for a Physician to order Blood-letting in the *Small-pox* and *Malignant Fevers*, not to mention the *Plague* or *Pestilential Fevers*, as Doctor *Willis* branded a Surgeon with the name of unskilful, who took only half a Pound of Blood from a vigorous Patient, to whom he had prescribed Venesection in the *Confluent Small-pox*, and imputed the miscarriage of the Cure to this alone without more ado.

Whether the Doctor or the Surgeon was most blame-worthy, let us only turn to the next Chapter, where the Doctor gives us five Histories in *Malignant Fevers*, all Brothers and Sisters in the same Family, where never a one of 'em was Blooded, some dy'd, and two or three of them had *Hemorrhagies* about the sixth or seventh day from the Nose, to above two Pounds of Blood, and those who escap'd were dangerously ill a Month, and recover'd tediously afterward: Which lasted till Doctor *Sydenham* boldly broke through this Barbarism which had overspread the Faculty.

Tho' *Galen*, and others whom he taught to let Blood seemingly profusely, for the Cure of a *Plague* in *Asia*, succeeded excellently; and beyond any other method of Cure by *Alexipharmack* Med'cines, and the nicest and most artful Antidotes prescribed by other Physicians. Tho' *Botallus* and many others had done the same; where was the Man, and what is his Name who prescribed large Blood-letting in the *Plague* at *London* 1665, except the Learned and Incomparable Dr. *Sydenham*? They all ran into a plaguy Method of expelling by *Alexipharmacks* and *Cardiacks* the
Poison,

Poison, without any Evacuation, which shou'd have preceeded them, so Dr. Sydenham made an ordinary *Malignant Fever* of that which his Fellow-Physicians made the *Plague*.

I cou'd give many instances of Inflammatory *Fevers*, which had *Metastases* in the first days on several parts of the Body, as Head, Thighs, Legs, &c. which I have had occasion to see treated by Physicians at *London*, much after Dr. *Willis's* manner, and almost ever with bad success, particularly a Servant to a Person of great Quality, who having such a *Fever* (with daily Exacerbation and Remission) and with a *Metastasis* about the beginning of it, on the Patient's Leg, between the Heads of the *Triceps* Muscle all along to the small part of the Leg. He was a young Man about Thirty, or Thirty two years, ordinary siz'd, about 160 Pounds weight, Brawny and well Muscl'd, and fit for his business, which was that of a Foot-man. He was highly esteem'd by his Lady, who sent the Physician to the Family, and the Apothecary, with an injunction to take the same care of him as of her self or any other in the Family. He was bled about 3 xx. and Vomited, and then had *Alexipharmac* Boluses (with a Julep) every fourth Hour, of *Pulv. è chel. comp. Sal. vol. C. C. Lap. Contrayerv. Consec. Alkerm.* which kept him in a continual Sweat for above fourteen days, and the Tumour never had any sign of Suppuration, and by this time he was brought so weak, that the Surgeons who attended him wou'd not venture to open it; for the *Fever* still continu'd, and he dy'd about the 21st day.

I have a great deal of reason to think, had this Patient been let Blood 50 or 3 LX. in the first

first six days, and the *Alexipharmacks* omitted, he might have had it suppurate in fourteen days, the *Fever* almost, or quite gone, and as much strength left as might have encouraged the Surgeons, without the least dread, to make an Aperation, as well as in the Instances of Cures in the *Malignant Fevers* which I have given.

The Learned and Candid Dr. *Colebatch* assures me that he has had many occasions in violent, acute Distempers, to use *Venesection* as largely as what I spake of, and to take away lb x. for a *Rheumatism*.

Among other Histories of Cures, He told me one, which is pretty remarkable, of a Gentleman now living, who had such an acute *Angina* that he cou'd swallow nothing; He had a *Fever*, extream Swelling of all the parts of the Throat, both internal and external, &c. He was young, vigorous, and of that Constitution which I have taken notice of will bear the greatest Evacuation. He immediately prescribed *Venesection* to z xxv. to be taken from the Jugular, and advis'd Mr. *Small* the Surgeon to be sent for, who has a peculiar Art of opening this Vein without Ligature, as well as others do the other Veins by the help of it. In two or three Hours after this was done, the Patient was so reliev'd that he cou'd swallow; but with much difficulty. This day he prescrib'd him a Vomit. The Patient seem'd to be Weak next day, by the two great Evacuations which had been made on the former, wherefore the Doctor forbore Evacuation this day, being farther induc'd to it because the Patient was no worse. The day after, when he came to visit him, the Patient told him with a doleful Voice, as well as he was able to speak, *That he had cur'd him of one side*

side his Throat, but was extreamly afraid, because he was no better in almost two days for all the artful prescriptions of *Med'cines* he had taken. He advis'd him to be bled in the other Jugular, who chearfully submitted to it, and this expert Surgeon did him justice on both sides, taking the same quantity of Blood from the opposite Jugular, which fail'd not of his Effect.

Dr. Cockburn told me he took as much Blood as this, which Dr. Colebatch says he did, in the Cure of some *Rheumatisms*, in the Cure of an honest Gentleman an Officer of the Navy, a Friend of his and mine, now alive, and recover'd him of a dreadful *Rheumatism* to his perfect strength, (notwithstanding this loss of Blood) in a very small time, in respect of that which is requir'd when Physicians hazard the instituting of the Cure by the Method of Parsimonious Venesection, which moreover (in this sort) is not the worst evil attends it, because it not seldom entails a tedious Lameness on the Patient; but 'tis well if he gets rid of it all the days of his Life. And I have since heard my Friend's grateful acknowledgment of the Doctor's Skill from his own Mouth.

The Learned and most Experienc'd Dr. Cole told me of some Instances in *Fevers*, where he found it necessary to take Fifty or Sixty Ounces of Blood from some very strong Patients, which had as sure success as where only half this quantity or less was needful in other Cases: With a multitude of Histories of Cures of *Apoplexies*, *Angina's*, *Rheumatisms*, &c. where this and a much higher Evacuation was so necessary, that it was attended with admirable success.

I cou'd produce here two most instructive Histories of *Fevers*, which appear'd much about the

the same time that the symptom of *intolerable* Head-ach did, in two young Gentlewomen about Eleven and Twelve years old; the one was Daughter to a much respected, worthy Gentlewoman, in the Family of a Person of Quality of the first Rank, of whose Case I was an Eye-witness: The other was Daughter to a Person of Quality where Dr. *Colebatch* was concern'd, who did communicate this to me.

The first after her death was open'd, and we found the Vessels running on the external part, and inner substance of the Brain, much distended with Blood and Inflam'd, and about $\frac{3}{4}$ iv. of *Lympha* in the Ventricles. The other, he told me had as great a quantity of *Lymph* in the Ventricles, and besides some Blood extravasated from the small Capillaries, which lay curdled round some of their sides. This whom I familiarly knew before her sickness, was a fine, sprightly, lusty Girl, and cou'd well have bore twice the Evacuation which was us'd, which true Basis of Cure being timely laid, there was a good probability that the pursuit of the Cure diligently, with the other Remedies which came properly to be then indicated, might have succeeded; tho' in this I can't be much assur'd.

I dare not, without breaking thro' a civil respect due to the Persons immediately concern'd (not having ask'd their leave) be more particular in these Cases.

The Learned Dr. *Gardner*, who was call'd very late, with my Friend Mr. *Peir* the Surgeon, to an eminent Citizen, the late Mr. *S — r*, who had one of those Lymphous *Metastases* between the Muscles of the Thigh, told me he had been in the hands of almost an infinite number of Physicians

tians and Surgeons for twelve or thirteen Months together, and for ought he cou'd learn, had some reason to suspect it came with some of these *Fevers*, which shou'd have been at first otherwise treated both by the one and t'other. For when he was given over by both, They, with the advice and assistance of some few others, adventured to lay the Tumour open, which recover'd him in many of the animal faculties, even to admiration of all who saw him; tho' the Blood was so dispirited with the mixture of putrid steams, perpetually supply'd from this *Abscess* (so continued a *series* of time) and the Fibres of the Concocting Organs proportionably vitiated, that after by this means (which shou'd have been done at first) they had spun out his Life above two Months longer, he at last yielded to the severity of his Disease.

'Tis a known Story of this present *French King Lewis XIV.* who being a Youth, had a dangerous sort of *Small-pox*, about the Age of Thirteen; The Physicians to his Majesty and the Princes of the Blood, being all in Consultation, after they had Bled him twice, and Danger seem'd to encrease, they seem'd to be satisfy'd that the Basis of the Cure was sufficiently laid by Blood-letting, but the *Protomedicus* allעדg'd, that being a strong, well-built, handsom, brawny-Muscl'd Lad, as any of his Age almost within his Dominions, he requir'd a considerable larger Evacuation, and urg'd it with so much Eloquence and Frankness, as if he had been treating of his Fellow-Subject, that he gain'd the majority of the Consultation to his Side, and they Bled him five times in all, and failed not of glorious success.

114 *New and Exact Observations*

No Example can be shew'd of the Faculty more commendable than *this*, where the major part in Consultation, at first of differing sentiment, readily yeilded to the Evidence of Reason, tho' presented to *them* only by one of their Number; and reward did as necessarily follow their conscientious dealing; for they were all sharers of the Honour, but more particularly *Protomedicus*.

I shall answer an Objection or Sophism brought from the Mathematicks against the Doctrine of *Plethora's* and Venesection, as indicated on that account; and then conclude this Chapter.

Obj. It is alledg'd that prodigious Velocities of the Blood may be caus'd only from *Rarefaction*, and a double Velocity is equal to a double *Plethora*. This is prov'd, if by augmenting the Specifick Gravity of a Liquid, much more than a double quantity, may be made pass thro' the same Tube or Cylinder in the same space of time; or the same quantity of a Liquid may be made pass thro' a Tube of but half the Diameter of another (supposing them both of a length) in the same time: Therefore say some, as the Velocity of the Blood being hugely encreased is no *Indication* of Venesection, because we see that it may be often reduc'd to its natural motion again without it, so a double Velocity being equal to a double *Plethora*, neither will every large *Plethora* require Venesection.

Resp. Now that we may not lose our selves in the Ambiguity of Words, we ought to define what a *Plethora* is, which (as I have shew'd from the judgment of the very best of all the Ancients, and the demonstration of the Modern Physicians, who are Grave, Learned, and Sagacious, particularly the incomparable and renowned

ed *Sanctorius*) as I apprehend is properly when the Blood-vessels are fill'd with a greater quantity of Blood than they are usually fill'd with in a state of perfect health; and in this Case the circular motion of the Blood (when it riseth to an high degree, as in some very acute Distempers) seems rather to be retarded than accelerated. But if by a *Plethora*, any Person means when the Blood-vessels are distended beyond their usual *Size*, such a *Plethora*, may be occasioned from *Rarefaction* and Acceleration of Velocity in the Mass of Blood without augmentation of *quantity*. In both Cases the Blood-vessels are distended more than usual, but the *Causes* and *Effects* of such a *Distention* are vastly different; such distention in the first Case proceeding from a *Real* augmentation of quantity, but in the latter only from an increase of Velocity; upon which different Accounts the Pulse does of Consequence beat slower or faster than usual; so in the first Case Venesection is certainly indicated, but not in the latter; it being highly necessary in that Case to ease Nature of the burden of a superfluous quantity of *Blood*, whereas in this Case 'tis sufficient to reduce it to its own Natural Motion again.

Hence it appears, that a Pulse quicker than usual, or any extraordinary acceleration of Velocity in the Mass of Blood, does not always and certainly indicate Venesection. Nor Secondly, can we with any Reason infer, *v. g.* that a double Celerity in the Mass of Blood is equal to a double *Plethora*: That is, that the same good or ill *Effects* may flow from an Acceleration of Velocity in the Mass of Blood, as from a real and unusual augmentation of the quantity thereof; which will appear more plain from hence, *viz.* that in the Blood we are to consider a Twofold Motion,
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a *Progressive Motion*, and an *Intestine Motion*. As to the *Progressive Motion* of the Blood; it is plain the animal Oeconomy is seldom or never disturbed, but rather assisted, and all the operations of Nature better performed by such an Acceleration of its Velocity, as appears by the Advantages of Riding, Walking, and other Exercises, &c: So that we have little reason to apprehend any Distempers from such a Cause. But if the Acceleration of Velocity in the Mass of Blood be such as arises from a Perturbed and Lax'd *Intestine* motion thereof, from whence an unusual Rarefaction and Ebullition may proceed, then in that Case, and from such Causes, I conceive Distempers, and especially *Fevers*, may proceed. But however in neither Case can we properly say, that an unusual Acceleration of Velocity in the Blood is the same with or equal to a *Plethora*.

As to the Objection drawn from the experiment of forcing the same quantity of any Liquor thro' a Tube which has but half the Diameter, and a far less capacity than another Tube in the same time; the *Forces* and *Velocities* in that case must be reciprocally as the Squares of the Diameters of such Tubes, v. g. supposing two Tubes of equal length, but differing in their capacities, each one Foot long, the first having two Inches Diameter, and the other only one Inch. Let the first be fill'd of a certain Liquid with $\frac{3}{4}$ xii. which passeth quite through by its natural gravity in $\frac{1}{4}$ of a Minute, and consequently $\frac{3}{4}$ xiii. in the same time thro' the small one. Because the capacities of the Tubes are as One is to Four; therefore by quadrupling the force of Gravity, a quantity of $\frac{3}{4}$ xii. will pass through the smaller Cylinder

linder in the same time as the 3 xii. pass'd thro' the larger Cylinder, but with four times the Velocity; and so proportionably in other cases. Therefore, say some Learned Men Velocity, produceth the same *Effects* in the Blood as a *Plethora*.

But I cannot see how such an inference can be made from this experiment; for 1. There can be no true Analogy between things animate and inanimate. 2. This experiment relates only to the Progressive motion of the *Liquid* in the *Tubes*, and the *Blood* in the vessels, without any regard to the Intestine motion which ought principally to be considered in Distempers, but which this Experiment gives no light to. 3. If we may judge of the Acceleration of Velocity in the Progressive motion of the Blood by the difference of Pulses in a healthful and morbid State, it is seldom observ'd to exceed the proportion of seven to nine; therefore the Accelerating Forces and Velocities of the Blood must be in the same proportion, which (more especially as it is only in the Progressive motion of the Blood) can never account for the Violence and Acuteness of the Symptoms in some *Fevers* and other Acute Diseases.

In my Opinion, this, and such other Problems can be only determin'd by certain Experiences of Practitioners, *ex. gr.* In my Practice I very seldom found the *Plethora* in *Fevers* to arise above the quantity which ought to be daily perspir'd. In *Rheumatisms*, *Apoplexies*, &c. I found the *Plethora* to be twice this quantity sometimes, as it is only very rarely that it happens in *Fevers* to exceed the daily Perspiration a small quantity. I seldom observe the Pulse either by Riding, Walking, or other hard Exercises, or in *Fevers*,

to exceed Ninety *per Minute*. In those *Rheumatisms* (where I take the *Plethora* to be the greatest which happeneth to Human Nature in Acute Diseases) the Pulse is not so frequent as the Natural, when the *Plethora* is come to the height; and so I have observ'd it in *Apoplexies*, &c.

There is no doubt but Poisonous Particles do sometimes mingle themselves with the Air, and according to the Quantity of them, and Quality, as being more volatile and exquisitely fine, and more or less Acrimonious and Caustick, and according as that Fluid is more condens'd, or on the contrary extreamly rarify'd, we may find *Fevers* with as uncommon *Phenomena*, nay sometimes Nature is not allow'd so fair play, for she is oppress'd at once, and the Patient dies in two Minutes, who was in perfect Health just before.

This is so common an observation in History, and indeed in our Ships of War, that scarcely they ever make a Voyage, but they lose some Men that way, and sometimes two, or three at a time, in the Summer, and especially in the hot Countries, when the Air is Hot, and a Multitude of People breathing, and constantly perspiring in a close place, such as is a Ship's *Allop*, or Lower-deck, next the Hould, where is the entry to a certain vacant space, near the Ship's-center, which leadeth to the bottom for gathering all the Water together which the Ship draweth by leakidge, and is call'd the Well; several times there is occasion for some People to go down, to examine the quantity of the Water, and in some Ships to bore an Augur-hole thro', to let in as much as will preserve a good Air.

I have often known two or three Men kill'd at a time, as is said; and the reason may be understood

derstood from what I said of the general Effects of that Fluid in ordinary *Fevers*, where there is not above two or three Inches, but just as much as may make a Surface almost equal to the Square of the Well) of stagnating Salt water which had been a long while a gathering, and the Air over the whole *Allop* extreemly rarify'd, and here not at all ventilated, it must become most intensely so, whereby the subjacent water must be put into violent motion, as we see in the experiments made by the Renowned and Honourable Mr. Boyle in his *Antlia Pneumatica* of two Vials, one having a proportion of Water in it, and the other as much of a Mercurial Preparation as was enough to sink it, but stop'd with Wax (in Company with the other) put into a wide-mouth'd Jar, having a suitable quantity of Water in it, and then let down together into the Receiver, and various Exsuctions made by plying the Pump: From whence there will follow a great Heat, in the Stinking-water, and by the greatness of the Motion, several Particles of the *Sal. vol. marin.* will be diffus'd thro' the Air, that lyeth on its Surface; but the Air being expanded many times beyond that Degree, which affords an *Elater* necessary to preserve the Fluidity of the Circulating Mass, will neither be able to do its Office, when it does enter thro' the Lungs, nay, I am very apt to think on another Account, that its *Renitentia* will not be sufficient to expand the *Vesicula bronchiales*, and being likewise stimulated by these astringing Particles, they must Coalesce, or their Sides must meet just like the Stomach in the action of Vomiting, whereby there must be a close Cohæsion, upon which Account the Mass of Blood will coagulate in the Lungs; and the Person must die with a Syncope:

Altho' in this Case there is no Remedy unless being exposed to the open Air again before the Lungs are quite shut up, or the coagulation perfected, yet I am apt to believe from very good reason, from what I have said before concerning common *Fevers*, that where the constitution of the Air (I mean on the Land) does favour the *Fever* call'd the Plague, from a Predisposition of the state of our Blood at that Instant, some Particles more deleterious than others, do enter the Mass with the Air, which quickly superinduce a general coagulation, I say there can be no Remedy like Venesection to be prescribed in this case almost *ad Lipothymiam*; but to be determin'd by the quantities demanded in the Cardinal Sizes, as we find by experience in ordinary *Fevers*, which is confirmed by *Botallus*, the excellent Dr. *Sydenham*, and by *Galen*, who asserts he cur'd many so of a Plague in *Asia*, *Cap. de Venesect.* And as to the Effluvia of the Sick in close places, they are of less consequence, yet many times they don't fail to cause Putrid *Fevers* of a pertinacious sort, so that these may be called contagious. I will only add a word or two about that dangerous *Fever* which attendeth the *Variola Confluentes*, and come to a conclusion of this Discourse.

The *Macula purpurea*, or *Petechia*, do often shew themselves upon the eruption between the *Exanthemata*, this sheweth a considerable *Incrassation* and *Lentor* of the Blood, as yet full of Spirits, with a great and burning Heat, altho' Authors do generally call this state of the Blood a *Coagulation*, which does hardly begin till the fifth or sixth Day, which *Phenomenon* we have explain'd already, therefore shall only say that Venesection is indicated

indicated almost as large as in the common *Fevers*; and ought to be perform'd expeditiously. Altho' I have had good success in those whom I have treated, yet I must own that I have not had a sufficient number, to determine the Theory; yet I think it is well warranted by Dr. Sydenham's Observations, that about the eleventh day, when the dangerous Symptoms come on, when the Patient is threatned to be suffocated, he at first ordered a strong Emetick, which sometimes did not want Success, yet afterwards (I think in the *Sched. Monitor.*) he was forc'd to joyn Venesection with it, and still he complains that he found the Remedy very uncertain. The *Portuguese* Physicians prescribe Venesection here, as is said before; and altho' they have no determined quantity assign'd for any Distemper, for they make use of the great Evacuation in all Distempers as far as I was able to find, yet they don't indicate by quantity, but by the number of Venesections; even in a *Dropsy* they don't forbear, and the number is about ten or twelve; however, notwithstanding this unwarrantable Practice, they hit it better in *Fevers*, and in this kind of *Small-pox*, than our Physicians, who follow Dr. Sydenham or Dr. *Morton* so close, as if they meant to tread on their Heels. The Physician to the finest Hospital they have, viz. of *St. Domingo*, assur'd me, that they never find this kind of Pox to Flux, as we do; which I attribute to the Effect of the Evacuations; yet it may be the Climate may contribute somewhat, therefore I shall not be positive. He told me likewise that he prescribed *Diacodium* every Day after the first three Evacuations. The necessity of instituting Venesection and a course of Catharticks after the Distemper, according to both these

Physicians, does likewise evince, that the evacuations made, were not near sufficient for those who recovered; and many die being down-right suffocated, thro' this remissness.

I am convinc'd a larger Venesection even for Children, wou'd better answer than our most Pompous Forms of *Alexipharmacks*, and *Absorbing Species*, with the variety of Brandy's, such as the distill'd compound Waters, though I wou'd not condemn the use of them altogether, where the large Evacuations are made; but must be prescrib'd by exact Indication. Notwithstanding, as I have said already, that Childrens Blood is not so spirituous, as grown Peoples, because their Food is ordinarily of the less Nourishing sort, and is not come to its Defecation and Strength, till they have done growing, Venesection must be less; but Practice and Sedulous Observation will establish this as sure as we find it to be determin'd for the Adult.

C H A P. VI.

Farther Indications of right Blood-letting in Fevers, are taken from the highest quantity, which is found necessary in other acute Diseases, for the Cure of Persons of the same Cardinal Size; with Histories of Cures in both.

DR. Sydenham, in those Distempers where Venesection is indicated, makes these exceptions, viz. of Children, old People, and Youth who have been weakned by long Sickness.

The general Rules mentioned by Authors are some of 'em coincident, and put together are deficient, therefore I shall not mention 'em in that order. *Galen* in many places affirms the greatness of the Disease to be the only end of Phlebotomy, provided the Strength will allow.

The Ancients wou'd have Strength measur'd by Age. *Celsus Lib. 2. Cap. 10.* says, they judg'd the first and the last Age, unable to bear this Remedy, *persuaseruntque sibi Mulierem gravidam, quæ ita curata esset, abortum esse facturam. Sed postea usus (rerum Magister) ostendit, nihil ex his esse perpetuum. Nam firmus Puer, robustus Senex, & gravida mulier valens sic tuto curantur: Cum præcipuè in hoc ars sit, quæ non annos numeret, nec conceptionem solam spectet, sed vires æstimet, & ex iis colligat, possit necne superesse, quod vel Puerum vel Senem, vel in una muliere duo Corpora simul sustineat. Eadem vires, sanguinis hauriendi modum seu quantitatem præscribunt, iisdem consentientibus, corporis habitu, consuetudine, aere ambiente (qui anni temporis, & præsentis diei constitutionem, regionem & pe-*

culiarem habitationem complectitur) cum *prægressa diata*. We must not mind the number of Years, as some do, but the habit of the Body; for some at Sixty cannot safely bear the section of a Vein, which yet may do good to others of Seventy, *Galen L. 1. ad Glauco. Cap. 14.*

Those who are accustomed to be Bled bear large Evacuation better than they who are not us'd to it; and it may be done more liberally in a moderately Cold Air, and in Bodies who use high feeding and want Exercise, than in a vehement hot Air, and after a scanty, thin Diet, with much Labour.

The colour of the Blood is not to be regarded, for I have found it remain like Pleuritick after *ss. v.* evacuation, for a *Fever* with *Delirium* in the Cardinal size 1200 weight, and in many Cases where the largest is indicated, the Colour is not different from sound Blood, as in *Apoplexies, Epilepsies, &c.*

But the most certain Canon of Indication is taken from the *Pondus* of the Adult, in all the Cardinal sizes, provided they are not visibly decay'd in their Strength, &c. and in that Case, the judgment of the ordinary must give the reasonable Allowance; and herein consisteth the excellency of this Canon beyond any which have been hitherto assigned by Authors, That in those Distempers where Venesection is without doubt of great use, the true quantity can be with a Physical certainty determin'd.

Neither are fat Persons excepted from this Rule; for although it was the Opinion of the Ancients that fat People have less Blood than lean, and therefore affirmed that Lean People were to be let Blood on the proper indications for it, more Plentifully

tifully than the former ; yet let us suppose two Strong Men of the Cardinal Size 200 weight, Aged alike also, suppose 34, and that one of them falls into a full, high Dyet, and Diminisheth his wonted Exercise proportionably, he continueth Healthy, but groweth Fat, and in a certain space of time Augmenteth his weight, with an addition of Thirty Pounds.

But the other continueth his health and weight likewise, viz. 200 weight, till the same time that his Companion arriveth at 230 weight, and now at this time we suppose they are both taken with a Continual *Fever-putrid*, with such symptoms as indicate the largest Evacuations : Must the Evacuation be made higher in the Lean Man than the Fat ? There can be no greater absurdity, seeing he remain'd healthful many Months, and it was no more his Fatness was the occasion of his *Fever*, than the Leanness was the cause of that in his Companion. We'll say the fat Man remain'd for example about the weight of 230 Pounds, and for two years healthful, all this time he lost not any perceptible part of his strength he enjoy'd when he weighed only 200 weight, only he cou'd not run quite so fast, nor walk so far in a day with that facility, not that he found any diminution of his strength in the least in this respect more than formerly *. And as the fat Man lost no strength, he lost no health, for all the augmentation of his weight, and this Fat was generated of the Monthly redundant humour, so that he lost not a drop of the former Blood which he had at 200 weight, to make this addition of 30 Pounds, and when his greatest

* That many Fat Men continue their strength the same as if this had not happened.

weight came to a stand, even the greatest part of this Fat by far, goes and returneth (altho' very slowly) to and from the Mass of Blood, else it wou'd spoil the Motion of the Muscles, as being contain'd every where in the Membranous cells within their interstices, as well as in the *Cutis vera*; upon the Mesentery, but chiefly in the *ἐπίπλοον*, because of this circulation of the Fat, the Mass of Blood is the Richer, and the Oeconomy is not so easily disturb'd with any small number of rough Particles, which this Oyl easily involveth, and blunts their points, till they may be comminuted, or eliminated by the repeated Circulations.

Again, if it did not Circulate, we cou'd not remove it, and this is often done by an Acute Distemper, as well as a Chronical; or by a course of Evacuations, instituted from the Medical Art, *e. g.* for the Cure of a *Gonorrhea*, &c. Moreover we see Men, who are come to Thirty Years Old, before this trade of Life fell in with them, and that the Fatness succeeding rich Feeding, and little Exercise, doth for a certain space of time encrease, and then cometh to a stand at 20 or 30 lb, so that they may continue thus Healthful, and with about the same *Pondus* of Fat, for many years successively, provided they observe the same manner of Feeding, and the same degree of Exercise, all this time; and all this is as intelligible, as that he remain'd a year or two, &c. with much the same *Pondus*, *i. e.* near 200 weight, when he had a lower Dyet, and greater Exercise, but still pretty regular in that way of Feeding, and constant to that manner of Exercise, with the other Non-naturals.

We may again learn the highest Indication of the great Evacuation, by comparing Distempers where the greatest use is made of it, *viz.* *Rheumatisms*,

tisms, Angina's, Pleuritis, Peripneumonia's, Apoplexies, &c. Now altho' our Hippocrates alloweth hardly more than ℥iij. 3 iv. in the Adult, as he saith, treating of Rheumatisms and Pleurisies, yet neither taketh notice of the difference of Constitution, nor assigneth any Canon whereby we may come to a Physical certainty of indicating the determined quantity, answerable to every Constitution of the Adult of both Sexes.

Because I intend to hasten to an end of this Discourse, I will mention only the Patients of one Cardinal size, whereby the other may be determined. I say then, that I can affirm from uncontestable practice, That Patients of the last mentioned Distempers, and of the Cardinal size 200 weight of either Sex, (*ceteris paribus*) cannot sometimes be cur'd with a less Evacuation than ℥viii. 2 iv. and sometimes it is necessary to carry it to 3 xx, or xxx. more.

I have known Rheumatisms become very severe, where the Fever was hardly perceiv'd at all by the Patient, and all the more ordinary symptoms of it entirely gone in two days, and yet for a Patient of the Cardinal size nam'd, the Evacuation of ℥viii. was necessary. Therefore if a *Plethora ad vasa maxima* in one Fever, may arise in such a Constitution nam'd, to ℥xi. at least, or xii, and the Evacuation required is ℥x. why may not some other sort of Fever, with the *Plethora ad vasa minima*, require an Evacuation of ℥v. for one of this Constitution? If all this *Plethora* in a Rheumatism were not *intra vasa*, how cou'd the Chief curative Indication be laid in the great Evacuation? for if the *causa Materialis* were *extra vasa*, and in the habit of the Body, as in Dropsies, it wou'd contra-indicate. And daily Experience sheweth,

sheweth, that the Patients who have been so treated, reckoning from the first of the Distemper, in Six Weeks time are able to Walk or Ride as well, if not much better, than they, who, of the same Cardinal-size, have got over with much hazard and difficulty, a *Σύνοχος* of the worst sort, where they had but the small Evacuation of 3 xxx; nay will recover their Health and Strength before them.

Altho' Dr. Sydenham says in the *Chap. de Rheumatif.* that the *Fever* in Two, Three, or more Days goes off, and the *materia morbifica* is thrown upon the Joynts, we must not imagine that this is all the *materia morbifica*, for it is only a part, and a very small part too, the rest is stor'd up in the larger *vasa*; neither is the *Fever* gone, altho' the more ordinary Symptoms of *Fevers* disappear: for I have observ'd sometimes the *Fever* to appear again by the Heat, Pulse, and Urine, when we have, in such Cases mentioned, rais'd the Evacuation to near *℥* ii. of the quantity demanded, and then I have slipt the usual Evacuation, once or twice, in hopes that this ebullition assisted with the moderate Antisebriticks, such as *pulv. came-mel. flor. centaur. min. sal. prunell. Ocul. cancr. pulv. c. abel. comp.* wou'd perform the Cure, but the *Fever* has disappear'd again, and the Pains renew'd with Violence, till I rais'd the Evacuation to the quantity required, *i. e.* to the utmost. This sheweth, that the Evacuations shou'd be performed, with all convenient and due Expedition possible, not only to relieve the Patient of violent Tortures, and racking Pains, but to preserve his Strength; for in this condition the Chyle can never be sufficiently comminuted, neither carry'd so far, as many places where Nutrition is wanted. And if
neither

neither Nature, nor internal Remedies, will be ever sufficient to throw off this excessive *Plethora*, and reduce the Blood to its right *Craſis* in ſome Caſes, what remaineth but Venefection to be done? This is manifeſt, yet I will give an inſtance or two to put it beyond Contradiſtion.

Lieutenant *Davis* a Gentleman of _____ Regiment, Aged about 32. put himſelf into my Hands for the Cure of a *Rheumatism* at *Iſſon*. He was deſirous, upon my mentioning that it was poſſible to Cure a *Rheumatism* by Salivation, to be Cured in this manner, therefore I conſented, and ordered ſb iii. to be Evacuated by Bleeding and preſcribed the *panac. Mercur. ppt. ſecundum Lemery debitis Doſibus ad 3 ii.* yet it did not touch him by the ordinary effect, only created a Troubleſome heat in the inteſtines, wherefore I order'd Venefection again, and that a Glyſter ſhou'd be injected; I told him that after an Evacuation or two more the Remedy wou'd moſt certainly take effect, but he muſt take a great deal more of it; however he wou'd not conſent to venture it, being baulked in the firſt attempt. For the Reaſons alledg'd, I inſtituted the Evacuations every day about eight or nine in the Morning, till it did riſe to ſb x. 3 iv. the extreám for this Cardinal ſize. The pertinaciouſneſs of the Pains and Stability of the *Vires* together, were my neareſt and evident Indications. This Gentleman was about the Cardinal ſize 200 weight, and was perfectly recovered in a very little time.

About the ſame time Maj. *Milburn* of _____ Regiment, Aged about 58, or upward, of the ſame Cardinal ſize, was my Patient for the ſame Diſtemper, who wou'd be cur'd by Salivation likewise; I preſcribed Venefection to ſb iv. and then ordered

ordered the *Parac. Mercurialis.* and rais'd a Salivation of about 28 days; he spit about lb iii. and upward *per diem* till the declination. 'Twas worthy of observation that the Pains did not entirely leave him (tho' all racking Pain was removed in the latter end of his Flux) till he was Purg'd two or three times with the *Decoct. amar. Purg.* which is a convincing Argument, that no method of Cure can equal that of the great Evacuation by Venesection. This Gentleman was near 60 years of Age, but firm in his Constitution, which likewise sheweth that he had been better Cured by laying the Basis of it in the great Evacuation of Bleeding.

Mr. Furlley's Wife, Wine Merchant in *Lisbon*, Aged about 40, went upon the River *Tagus* to see the Queen of *Portugal* when she arriv'd in the Country first, and was seized with this Distemper. The *Causæ evidentes* were a generous Dyet, want of Exercise, and the Air; for being used to an equal Air within her own House, which was more rarified than the common, coming on the River, and her Boat staying sometime opposite to the opening of the Hills; (for the River lyeth low between the ledges of two high Hills on each side) where the Wind did blow Cold, tho' otherwise moderate to People used to pass their life *sub dio*, or without Doors, nay, the Constitution of the Air was admirably serene at this time, being in the Month of *September*. I think it is very deducible from what I have said about the Air being the *causa procatactica* of other Fevers, that it shou'd likewise take place here. I can confirm this farther, from Epidemick Fevers, which I have observed in the Men of War lying at Anchor, in some of those Places in the River,

River, several times, which had no Sickness almost before they came to such a Place. The Ships being crowded with Men between Decks, and in the *Allop*, also carrying Supernumerary for Transportation, and sometimes by the Prisoners of Prizes, makes an excessive moist hot Air, from their spilling of Water or slaps of Beer between Decks, and then coming out of their *Balneo* into the Air, which is poured out between the Hills, much cooler not only than that, but cooler than the Air of the Region, yea, of the same place, within Three or Four Cables length it may be, the attack can't otherwise chuse than begin, on all that side or part of the Body, which is exposed to this driven Air, when they sit down or stand, leaning against some Rope or part of the *Gunnel*, or *Tafferal* of the Ship, to rest themselves, and take the free Air for refreshment.

This Patient was of the same Cardinal size, tho' She weigh'd about Twenty Pounds less than either of the two former. I instituted the Cure by laying the Basis in the great Evacuation. I ordered *V. S.* once a day *ad lb i.* till I rais'd it to *lb vii.* $\frac{3}{4}$ *vi.* And to compleat the Cure where it was instituted, as in the Case of this Patient, If we make use of all the *Antifebriticks*, or *Antihysterick Remedies*, making of Powders of *Gummi, vel resin. Guajac. Nativ. Antimon. diaphoret. Bezoar. Mineral. &c.* but in particular the *Volatile Salts*, how Specious soever their Titles are, they are none of them so good as the *Cortex*; which given once or twice in Twenty Four Hours, according as the Patient recovers Appetite, it lyeth constantly in the *Intestines*, (and it may be, some very fine Particles enter the Mouths of the *Lacteals*, where there are many bigger Orifices to let 'em out again,

gain, after they come within the *vasa*, and mingle with the Blood) and draweth a Tincture of all the Chyle, and Drink, that passeth that way, this being almost a perpetual supply, of both an attenuating Remedy, and attenuating Aliment, must become superior to the resistance of the Cohesion of the Blood, which now we suppose bears a proportion to the *Orificia vasorum*, or at most, not exceeding that of the highest Healthful Monthly *Plethora*. We may form a perfect Idea of the Effect of all the mention'd *Materia Medica*, only by considering how momentaneous that of the *volat. Sal. oleos.* is, which must be spent in one Circulation, and Eliminated every where, by the perspiratory Glands, nay, by the Glands of the Kidneys, &c. But the *Cortex* which will stand the Agitation of a Fire, a considerable time, and yield a good strong Decoction the Sixth Tryal, with *Aq. font.* or an addition of *Rhenish* or White Wine, sheweth what success we may expect from it, beyond all the *Materia Medica* proper on this occasion. In two Months, both this Gentlewoman and the Lieutenant were admirably recovered, reckoning from the first of their Distemper; nay, I can affirm that they were stronger than those of the same Size, who with much difficulty and greater hazard, had got through a *Synochus* with *Delirium*, or *Stupor*, and had only 3 xxx. taken away by Venesection.

Mr. Owen *Hollarian* a Man about Sixty Years of Age, of the Cardinal size 200 weight compleat, above six Foot high, well Muscl'd, who kept a noted Ordinary at *Lisbon*, was taken with an *Epilepsy* in the Night. He had been us'd to daily excess in the use of strong *Portugal* White-wine for near two Years; when he kept moderate, as he

he was a strong Man of his Age, so he wou'd eat very heartily, as such Men are won't to do.

I was call'd out of my Bed at Two a Clock Wednesday Morning. I immediately order'd him to be Bled Sixteen Ounces, and prescrib'd *tart. emet. gr. x. Cap. ex Aq. font. Cochl. v. vel vi.* When the Paroxysm was over, it operated two, or three times, but mildly, and then purg'd him as often.

Thursday Morning I order'd him to be Blooded in the Saphen Vein, about the last quantity.

This day about the Evening, he was seized with an *Apopleck* Fit. I told them it was a dangerous Case, and desired they wou'd send for some other Physician to joyn in consultation. They call'd the Learned Dr. *Cornelius Dauchell*, a Dutch Physician who Practis'd in Town; we agreed on *Venesection e. vena Brachii ad lb i. 3 iv.* and prescrib'd a large *vesicatory pro Nucha & inter Scapulas*, and his Head to be Shav'd, and all this being executed, he immediately was to take *Pulv. Cornachin. 3 i. ex vin. alb. Font a a. 3 ii.*

The Paroxysm continued from Eight a Clock in the Evening till about Nine a Clock in the Morning. About the end of the Fit it Operated once or twice insensibly, and about as many times when the Fit was over. We order'd them to give him Three or Four times in Twenty Four Hours, Hen-broath, and prescrib'd to be given all the rest of this Day every Fourth or Fifth Hour, *Spt. c. c. gtt. xv. sal. volat. succin. 3 β. ex Syrup. Carryophyllor.* altho' I propos'd rather more *Venesection*; for notwithstanding of the use of these Med'cines, by Noon he had another Fit, but it shifted to the *Epilepsy* as he had at first: It lasted Two or Three Hours, went off, and then he had a *Cataleptick Paroxysm* an Hour or Two, and was Comatous all the rest of this day: N They

They call'd Dr. *Bayonne* a *Portuguese* Physician (a Man of great Practice in the Parish of *St. Paul*) to joyn us; Dr. *Bayonne* and my self were for Bleeding him again; Dr. *Dauchell* alledg'd the Evacuation already, being lbiv , was large enough for so Old a Man, and that sometimes old People have the great *Artery* as it comes out of the Heart Ossify'd, so sometimes the small *Arteries* grow Callous and Inflexible, and if there was any thing like this in our Patient, he would never be able to recover the Blood already taken. I reply'd, That being very conversant in his House, I knew his Constitution well, having observ'd that when he kept himself from the immoderate use of Wine, he was accustomed to eat as heartily as strong Men are wont to do, digested it well, and profited by it; so we agreed on Venesection to z xii . and that the former Remedies shou'd be made use of with a Glass of Rhenish Wine.

He continu'd much the same till *Saturday* about Six in the Evening, and it was very remarkable, that notwithstanding this expence of Blood, the Old Man's Face had a deeper Red Colour than ever I knew him, whether Sober or concern'd in Drink.

I urg'd another Bleeding, alledging this Phenomenon indicated at this time an abounding Blood, Dr. *Cornelius* oppos'd, and Dr. *Bayonne* adher'd to him; but after I urg'd the matter, we agreed to take z viii . which shou'd be the last of the great Evacuations.

It is alike observable, that as soon as he was Bled, and his Surgeon had ty'd up his Arm, that Red Colour left his Face, and in a Quarter of an Hour he was out of the Fit, and cou'd answer sensibly to short questions, but was in appearance Drowsy.

We

We prescrib'd R^x *Castor. gr. xii. sal. vol. succin.*
 ʒ β. *Syrup. Stachad. Cochl. β. Cap. Statim & sexta de-*
inde hora; and the next day to be Purg'd *sicut antè*;
 for all this he grew *Maniack*, but the Cathartick
 repeated twice, rid him intirely of it.

He recover'd his Health, and was free of all o-
 ther Distempers, and of that also two Years;
 nor had he ever another fit of any of these Dis-
 eases again.

Now if this Man at any time after, had been
 taken with a continual Putrid Fever, with the
 Symptoms which indicate the greatest *Phlebotomy*,
 the former *Plethora* wou'd shew how far it
 was capable of Augmentation, as a Rule as certain
 as any in all the Art of Physick; so that I shou'd
 have been under no dread to use *Phlebotomy* in this
 Case to lb. v. altho' he might have several Putrid
Fevers that might not require 30 or 40 Ounces.

Now from what I have said of *Fevers* with
 the highest *Plethora ad vasa*, which is all within
 them, we may be better able to judge of others,
 which have part of the *causa Materialis extra vasa*.
 Altho' I said, that the *Macula purpurea*, which
 appear at the Eruption of the *variola confluentes*,
 do proceed from a considerable *Lentor*, more than
 that which is found with the distinct sort,
 though this again has a less Viscosity than o-
 ther *Fevers*, yet either this or that has a *Lentor*
 that is equal with the quantity of the *Causa materi-*
alis or the *Materia Morbifica*; and in this sense I
 must own a *coagulation* of the *Crasis* with the Ma-
 jority of Medical Authors, but not till the Fifth or
 Sixth Day of the Distemper. But we are to con-
 sider both the manner of this separation, and the
 places where it is deposited. As I apprehend it,
 I judge those *Nidi* to be the same which are the

common seat of the *Dropsy*, *Erisipelas*, *Morbilli*, and cutaneous *Abscesses*, &c.

In the *Dropsy*, the Blood being vapid, dispirited, and overwhelm'd with Lymph, the *causa Materialis* is congested of a long time, and therefore the volatile salt Particles, by reason of their too slow motion through the Lympheducts, do joyn and grow big, and so obstruct the Lympheducts, that partly by their too long adhesion to those tender Vessel, they corrode and make way through their Coats, being partly assisted by the preternatural distention from the repletion: So that we find the Lympheducts broken, and the *Lympha* discharg'd into the Cavity of the *Abdomen*, *Interstices of the Muscles*, &c. if the *Dropsy* grow inveterate.

As I have said already, the use of the Lymphatick Glands, according to the most accurate Anatomists, is either to carry the perspirable Matter out of the Body, or to return a *Lympha* for diluting and comminuting the Chyle in the second Concoction; for the first, we believe that the evanescent Arteries arrive for the most part on the outer Surface of the *cutis vera*, from whence they secrete this *perspirabile*, and the excretory Duct is only in length equal to the breadth of the Coat of this invisible Artery, often just at its utmost extremity, or very near it. And as it is agreed that the *Lympha* in the Lympheducts is for that use principally, and that they arise in all the extremities of the Body, and we see how they pour themselves into the Conglobate or Vesicular great Glands, *viz.* the *Inguinales*, *Sacra*, &c. that it may receive a new Velocity from the elastick compression of their Fibrous Cells (as Dr. Keil says) so I think we may with much reason believe that there shou'd be a Multitude

of

of Vesicular Glands in the *cutis vera* for the same purpose, but smaller, and surrounded with other fatty Membranes to defend 'em from the injury of the Air being in the utmost Limits, and most exposed to the various impressions of it. Therefore in Acute Distempers, such as the *Small-pox*, *Pleurisy*, *Angina*, *Erisipelas*, the excretory Ducts and these Vesicular Glands, are the proper Receptacles or *Nidi* of that part of the Morbifick Matter which is discharg'd into them, which is sometimes capable of Maturation, and at other times not at all. As I said, the two sorts of *Moleculæ* in *Fevers* which are most apt to Coalesce, are the Particles of the Volatile Salt in the *Lympha*, and those of the Chyle; sometimes it happeneth that more of the one, sometimes of the other, is thrust into the Vesicular Glands, when more of the salt is repositied there; and afterward there is a due supply of the *Lympha*, the Vesicles appear above the *cuticula* almost like a cone; but never suppurate, and this is an *Erisipelas*. When more of the Chylous Particles are thrust into these Vesicles, and there is a successive supply of *Lympha*, the Vesicles Augment and Elevate themselves above the *Cuticula*, but more like the segment of a Circle a-top, and then suppurate so as we see in the distinct *Small-pox*. Sometimes it falls out in these *Fevers*, that the *Causa Materialis*, or the *Plethora*, is not excessive, so that when an Ebullition does but once begin, the most offending particles, either of the one or the other, are soon separated and push'd forcibly into the Vesicular Glands; and this is no wonder when we see the Blood it self make its way through the extremities of the Arteries, sometimes through the Nose, sometimes by the Kidneys and Urinary Passages, in the

Small-pox in great *Hæmorrhages*, and sometimes likewise on the surface of the Skin in form of *Macula purpurea*.

But sometimes it falls out that the *Plethora* is great, and because the Arteries are much distended, the Heart cannot make such vigorous *Systole's*, and the Blood likewise in this Case being of a greater Cohæsion, the offending Particles can neither be so well collected, nor separated and push'd forward into the Vesicular Glands, wherefore some of the irregular figur'd and sharp-pointed Particles, sticking in the Gland, where the excretory duct is short on the surface of the Skin, will wound it, from which will follow a proportionable quantity of Blood, which oozeth out of the Vessels between the *Cutis* and *Cuticula*, so much the more easily, because of the great Distension from the Repletion. This is the manner I think in which the *Macula Purpurea* appear in the *Variola Confluente*; so that the Arteries are both full, and the Blood has such a *Lentor*, that it cannot be sufficiently thrust forward into the Vesicular Glands, wherefore they lie flat, because the *Materia Morbifica* lieth deeper, and indeed is stor'd up in all the great Vessels as in other *Fevers* which have an high *Plethora*.

The extraordinary *Plethora* in the same manner hindereth the separation of the Morbifick Matter in an *Erisipelas*, so that lying Deep, the *Vesiculae* are not swell'd above the *Cuticula*, as is said, therefore the whole surface of the Skin, both here and in the *Variola Confluente*, is rather Elated and Tumify'd, than divided into distinct Tumours, as in the *Variola discreta*, and the mild *Erisipelas*. And as Dr. Sydenham has observed, when the *Small-pox* lie thick, and swell the Face

Face much, it foretelleth that the Distemper will be dangerous; so I have taken notice of an *Erisipelas* in the same manner. In which case there is a necessity to raise the evacuation by Venesection near as high as we have said in the untoward Fevers, before any Catharticks with *Calomelan*. or howsoever otherwise prescribed, can take place. The Earl of *Galway's* late Physician, Dr. *Amiot*, being prejudic'd against this Evacuation, dy'd of this sort of *Erisipelas*, because he alledg'd that he had cur'd several others without evacuation, either by Venesection or Catharticks. 'Twas in this sort of *Small-pox* that I said this Evacuation is to be raised near as high as in the uncommon Fevers mentioned, by which any one may perceive what Advantage must accrue from having timely done what many Physicians are obliged to do at last, and generally without success; For about the eleventh day, when the Salvation beginneth to diminish with the swelling of the Face, Suffocation immediately threatneth, and now they fly to Venesection and an *Emetick*, after the time that the Distemper shou'd naturally be judg'd in favour of the Patient: When the whole Fluids and a large part of the Solids have undergone such a cruel conflict with an ulcerous disposition all over the Body so long a space of time, this seems to me a very wrong time for Venesection: And as the Ancients, and the most eminent Physicians of the Moderns also, do affirm, that strength of Spirits can never be consistent in such a *κακοχymia*, therefore they forbid any great evacuation this way; I say, where can we find a greater *Cacochymia* than in the Blood, full of Putrid Ulcerous Matter, throughly and intimately mingled, with the whole Mass, and distributed

every where by many days Circulations, and by the help of a *Crisis* which is against Nature, and therefore can seldom succeed? He recover'd with much ado with the Evacuation of about $\frac{3}{4}$ xx. of Blood, for the same affection together with repeated Catharticks, of the most appropriated sort, after two Months grievous Torture, about ten or twelve Months before. But all the Rhetorick that I had, cou'd not now prevail farther with this old Gentleman, who was about 58 or 60, but strong, and Eat heartily, and lik'd all generous Wines. He was about the Cardinal size 200 weight, and his evacuation in this extreme case shou'd have been l. or lx $\frac{3}{4}$, yet in this last Sickness he wou'd not be bled but once, viz. $\frac{3}{4}$ xii.

I don't deny that in a few days the *Lentor* of the Blood, in this sort of *Small-pox* is broke, and the blood is attenuated, and acquireth a small *Fluor*, whereby Salivation succeedeth, most of the perspiratory Glands being shut up. But this Salivation is far from being equal to so great a *Plethora* and *Cacochymy*; indeed to answer that intention fully, it ought to come higher, than those we raise for *Venereal* Patients, and to continue as long, or longer; for we seldom find our Patients with a *Plethora* whom we Salivate for the *Lues Venerea*. I saw in the Year 1709. a notable instance, where a Physician order'd the Patient to be Bled five times in a Mercurial Salivation in a Case not *Venereal*; when he did spit at the rate of lb iv. per diem, and it was at the height, and yet notwithstanding it did continue for all this, and the Patient escap'd with his Life. So that Venesection is no such Bug-bear in a *colliquated Crisis* as many imagine, especially where a *Plethora* gives the indication, but

but this shou'd commence with the very first of the Distemper, when the Physician knoweth that the Patient never had it before, and findeth the *Pathognomonick* signs, such as *Vomiting* and the *Soreness* at the *Scrobiculum Cordis* upon being touch'd, &c. and then he ought to proceed daily, till he take the necessary quantity.

The *Plethora* in the Cardinal size 200 weight, of this sort of Patients, as far as I can determine it by the Practice I have had, requireth an Evacuation to *℥iv.* at least, which sometimes may notwithstanding require full *℥v.* We see large *Plethora's* where the ordinary Symptoms of *Fever* are scarcely perceptible, as many Physicians have observ'd; particularly Dr. Sydenham, that most faithful *Historian*, gives a remarkable instance of this near the close of his *Sched. Monit.* of a Young Man who had no *Fever*, as every one thought, till he had examin'd him, to whom he ordered Venesection immediately, and then in a very small time the *Fever* appeared with a witness. Also some *Apoplexies*, I may almost say all, come from a large *Plethora*, yet have the Pulse little differing from the Natural, (for as Dr. Willis proveth, it can never follow from Inanition, unless almost no Blood at all shou'd be sent from the Heart to the *Cerebrum*, and in this case the Patient wou'd rather die of a *Syncope*) which is only a *Fever* smother'd; and cou'd as many *Animal Spirits* be Secreted as the richness of the Blood can well afford, there wou'd be a notable *Fever*, which sometimes (tho' not to be trusted) may succeed according as the Ancients have observed, and then there is some probability the Patient may escape, although Venesection is still indicated, and Nature will do her work much the better.

ter. In this Case, although part of the *Causa Materialis* is thrust into the *Meninges*, and the Vessels are hugely extended in the substance of the Brain, and the Nerves are oppress'd both at their *Origin*, and as they go out of the Brain, so that a sufficient quantity of Spirits will not be secerned, to supply the Heart with to perform those *Systole's* that are necessary to carry on a *Fever*; the great stock then of the *Causa Materialis* is still heaped up in the *Arteries* and *Veins*, but especially the first, which are the Proper, *Circulatory*, Great and Royal Channel.

Although I never understood that the matter thus impacted into the *Meninges* of the Brain doth at any time suppurate, being both one of the remotest parts, and having no *Muscular* or *Cuticular* Flesh adjacent to it, which I take to be the reason; for it seems to me that a certain degree of heat is necessary for the production of *Pus*, which can be done no where, so well as in the bosom of one of these, yet if not reliev'd, and that timely, the Patient must suffer Death, *humanly Speaking*: For then it *extravasate's* within the Substance of the Brain.

Let us suppose a Patient of the Cardinal size 200 weight (*ceteris paribus*) labouring under the stroak of this Distemper, you may give what *Emeticks*, what *Catharticks*, what *Sal. vol. succin.* what rare *gtta. Dris. Goddard*, and all the specious *Volatiles* that ever were elaborated from *Chymistry*, and I can affirm from undeniable Experience, that they will all signify nothing; nay, they are worse than nothing (for Nature then will be left to kill the Patient a little later) till the great Evacuation is two thirds over.

I find

I find the Evacuation from lb. v. to vi. to be necessary. It may indeed happen, that one of this constitution; after an evacuation of $\text{lb. ii. } \frac{3}{4} \text{ vi.}$ by the help of a multitude of *Vesicatories*, *Cupping* with *Scarification*, *Cauteries*, *Seatons*, *Fontanels*, and half an Apothecaries Shop emptied of the *Materia Medica* nam'd, and of all the elegant forms prescribed out of the *Antiepileptick Class*, may at last recover; and yet for all this, he may as well have two *Paroxysms* more, or it is a hundred to one, but he must have one more in a Fortnights time, and that will carry him off; and then the Ordinary has more empty Vials and Gally-pots to vouch for him in the Windows, and on the by-Table, than witnesses are needful to give Testimony for the famousest Cause ever was determin'd in *Westminster-hall*. At this time when he's gone, he'll tell the Patients Relations gravely, that although *Apoplexies* do generally kill Folks the third Fit, yet he observ'd this Season, that Patients died mostly of the first; and considering the constitution of the Air, it was next to a Miracle that he held out to the second. His Practice it may be brings him in two, or three Thousand Pounds a Year, and therefore he ought to be credited as much as *Aesculapius*: And so much for this. I cou'd give convincing Histories more of this sort, but it is not directly in my Rode, my subject being more properly *Fevers*; we see that in *Pleurisies*, and *Angina's*, some part of the *Causa Materialis* is impacted into the Membranous Cells, partitions of the *Pleura*, or rather the vesicular Glands within the substance of it; and yet, the great part of that offending matter is stor'd up in the ordinary Channel of Circulation, which we find necessary to be removed, and there is no way

way so fit both to discuss the inflammation, and to put the diseased part into strong *Contractions*, to express part, if not all, of that Morbifick Matter, into the exporting *Lympheducts* of these *Vesicular Glands*, to be returned again into the *Thoracick Duct*, as by the greatest Evacuation: How much this ought to be I have said already.

When the necessary Evacuation is neglected, or not timely done, we see that that small part of the Morbifick Matter within the *Pleura*, by means of the great heat from the Lungs, and the moderate heat from the *Intercostal Muscles* and *Cutis vera*, is able to form an Abscess considerable enough to kill the Patient at last, after the most terrible and acute pain at first, and a lingering pain after, which draweth on another Distemper to compleat the Tragedy, unless the Abscess is opened in time, and discharg'd outwardly, before it can make its way into the Breast.

We see in *Angina's*, that some part of the Material Cause is lodged in the Vessels, Muscles, and Membranes of the *Æsophagus* and *Larynx*, and yet the great stock is still in the Arteries and Veins; and therefore must be removed chiefly by Venesection; in this Distemper suppose a Patient of the same Cardinal size, we ought to proceed to the great Evacuation with double Diligence, that we may be before hand with the Distemper, which the next day may threaten Strangulation.

I find v. or vi lb. to be the ordinary Evacuation required, and unless the *Fever* and difficulty of breathing are manifestly abated, which I find in this Constitution, viz. 200 weight seldom happens before an Evacuation of about lb iii. 3 iv. is made, I never offer to prescribe a *Cathart*. But these signs being once given, there is no fear of

Stran-

Strangulation, but a Minutes time must not be lost. Then as Dr. Sydenham has well observ'd, nothing in this case so effectually hinders suppuration as a *Cathartick*; for it seems to me that it may do better here, than in either *Apoplexy* or *Pleurisy*, where part of the *Causa materialis* is run out into thick, hard Membranes, which require a greater force for to be moved, than where the affected part is abundantly more Fleshy as in this Case. However, the next day Venesection is to be repeated once or twice, according to the remission of these Signs, but I wou'd not fail once doing of it, let the remission only be gradual to appearance, for the *Purgative* does more check the *Ebullition* than remove the Cause; this is more evident the following day, for we often find the Patient much at one as the day before, upon which I conclude there is no room left for delay; therefore prescribe Venesection to be repeated twice this day, and a *Cathartick* the next, which commonly conquereth the Distemper. But if any of the troublesome Symptoms yet remain, I proceed after the same manner again, and in all these Cases what respects the Cure farther, both from *Pharmacy* and *Diet*, I rather chuse to make Dr. Sydenham my Pattern, always remembring, that suppose the Patient before this, was one of the proper subjects for *Fevers*, as well as for *this*, as I have described in the Introduction: and yet he may have an *Angina*, where an Evacuation of $\frac{3}{4}$ xxx. will do, &c.

I have insisted longer on Distempers that require the greatest Evacuation, because it is indeed from *Instances* that we sooner learn certainty in so difficult a matter, than from *Theory*, however they must be still join'd together, or else we shall be Subject to great Errors; so we may by these
Exam-

Examples be Letter able to judge, what Venesection in Petechial Fevers is necessary, and in the Small-pox, and how far it may be safely carried beyond the common Practice. And lastly how far they err (who like, to use a course similitude, the Dog that biteth the Stone thrown at him, spoils his Teeth without looking to the Hand from whence it came) who after some insignificant Evacuation for Fevers with *exacerbation*, finding the ordinary signs gone, conclude the Patient is cur'd, and in a few days they see him Relaps'd with a most acute and terrible Pain, either in the Side, or fix'd in the Buttock, Thigh, Leg, &c. and then conclude, that no more Evacuations are needful on these two accounts; *First*, Because they think the Evacuations made so lately *supersede* all others; and next, they believe, That the Matter *Stagnating* in these parts is the Cause of the Fever, and so the Fever is only *Symptomattick*.

It is evident they are mistaken in both; thus neglecting a second time the very *Basis* of the Cure, they spend the time in which the Distemper might well have been Cur'd, in *Cupping* and *Scarifying* the part, applying *Fomentations* of Brandy, &c. and at last a *Gangrene* succeeds, which being large, and the Wound discharging a great deal of Matter for a long time, the whole *Causa Materialis* heap'd up within the Circulatory Channel is at last discharg'd thro' this *Sluce*, and then the Patient in Four or Five Months time is cur'd of the Wound, but remaineth Lame still, it may be Five Months more. And now the Ordinary tells the Patients Friends that it was a notable Cure, for the Fever was a most Dangerous Malignant, and had he not taken that very way, where Nature indicated the Poison was lodg'd, to expel it, and no other;

other, the Patient must certainly have lost his Life.

We may inform our selves still better about the largest Evacuation, by considering matter of Fact related by Practical Physicians.

Brasavol cur'd a Lady that had an *Hemorrhage* at the Nose of Eighteen Pounds of Blood which he Weigh'd.

Marcellus Donatus Cur'd a Patient who, in Two Days and an half, lost by an *Hemorrhage* Twenty Pounds, which he found by Weighing; and there are much greater than these related by other Physicians worthy of Credit also, which we will omit, because these being positive Tryals, and definite Numbers, they are conclusive for our purpose, viz. That the Distemper being given, and the Constitution known, from our former Discourse we need not doubt such Evacuations as we have established, when the highest in *Fevers* do not reach above one Third of these.

Again we may know the quantity of the Mass of Circulating fluids in humane Bodies, by these easy, but natural and evident Experiments, made by the most ingenious *Dr. Keil*, and taking pieces of the whole Tubes of *Veins*, *Arteries*, *Cartilages*, *Membranes*, *Intestines*, *Cutis vera*, &c. and weighing them just after the Death of the Animal; whether Rational or Brute, then drying them carefully by a moderate hot Air, and comparing the weight of the dry'd with that which they had being replete with Humours, we shall be able to find the quantity of all the fluids in the Body; and next, knowing the weight of the Bones, we come to know what proportion they have to all the rest. Both *Dr. Keil*, and *Dr. Cockburn* do say, That the Bones of an ordinary Man when well dry'd

dry'd, don't exceed Twenty Pounds in Weight, and the Muscles, &c. are Six or Seven more ; so that a Man of Two Hundred weight must have near One Hundred and Eighty Pounds of Blood, that is to say, both in the conspicuous Vessels or Channel Royal (where it may pass two or three times a day, as it does a vast many more times in those near the Heart) and in the habit of the Body, and in these small Vessels which compose and frame the *Arteries* and *Veins* themselves, &c. Where it is possible that it Circulates but once in Twenty four Hours. Now it is obvious from these experiments how *Marcellus's* Patient liv'd, for he had time for the Blood, that is in the habit of the Body, to Circulate into the great Vessels, whereby the Channel Royal was again supply'd with a new Stock ; therefore why shou'd we be afraid in some Cases of very high *Plethora's*, to take from a strong Man of Two Hundred weight $\frac{3}{4}$ lx. of Blood, in *Fevers* more than in other Acute Diseases. When Mr. J — O — ston of London Merchant, this present year 1711, lost by Computation at least Fourteen Pounds of pure Blood by an *Hæmorrhage* from a Vessel broke in the Stomach, which he cast out mostly upwards, and some Pounds downwards, of which he recover'd pretty well in two Months, and grew plump and strong as ever he was, in a Month more. As he's a Man only about the Cardinal size 150, I wou'd ask these Gentlemen, who I'm sure wou'd stickle much to consent to have him bled above $\frac{3}{4}$ xxx. suppose he had a *Fever* with the most urgent symptoms for that Operation, (alleging this to be a huge deal of Blood for so small and thin a Man to lose) how they wou'd account for this Phenomenon according to their explication of Animal œconomy ?

If such a *Fever* shou'd happen to this Gentleman, I hope they wou'd not trump up upon us that thred-bare Objection we meet with in all Countries when Physicians have little to say for themselves, That in this Climate Men don't breed so much Blood, nor so quickly as in others. This I think is a pretty instance, and I shou'd be mighty glad to be otherwise informed, if the Animal œconomy is accountable for it according to their usual way of reasoning; so that we will be able by Ponderation of living Bodies, to determine this way the quantity of the Mass of Blood, from which we may take our Indications of the highest Evacuations in those Diseases which require them.

Lastly, I will conclude this Head with that Rule of *Hippocrates*, which is a *Golden-Rule* with me often upon these occasions, *viz. Sic & vasorum evacuatio, si quidem, qualem fieri decet; fiat, confert, & facile ferunt.*

So that the Distemper and Constitution being known, the next and evident Indications center in these two, *viz.* the Pertinaciousness of the dangerous Symptoms, and the stability of the *Vires*. I take care, besides all my other Indications of this, to be present once a Day when the Patient is taken out of his Bed to have it new made, and then I make him stand as upright as he can, by which I find the palpable and evident *jactura virium*, when he can scarcely stand firm a Minute, or less, before he must tumble if not assisted.

I shall now add a few Histories, and then say something of Continual *Fevers* with Exacerbation; and so come to a period of this whole Discourse.

Mr. *Heugh White*, Merchant of *Dublin*, Aged about 28, of the Cardinal size 200 weight, had

a *Σύνοχος putris, exquisita*, continual with Heat, Thirst, Smart, and frequent Pulse, about 85 per Minute, and intense colour of the Urine, from the very first accession of the *Fever*. I ordered a Venesection every Morning ad ℥ i. five Mornings successively, on the Fifth in the Afternoon I prescribed him *tart. emet. gr. v.* which work'd briskly. The 6th he was somewhat *Delirious*, and when taken out of Bed to have it made, he was like to sink down in less than a Minute, when standing without being supported. However this new symptom indicated more Evacuation, therefore I prescribed ℥ viii. to be taken for the last time; there was a Vesicatory large enough order'd to be apply'd *ad Nucham*.

He had a Julep. *Rx. Aq. Scorzon. oxalid. a a. ℥ iv. Ceras. nigr. borag. a a. ℥ iii. aq. theriacal. ℥ ii. Syrup. Caryophyllor. Miliss. Fernelii, a a. ℥ i. β. Ms. f. Julap. Cujus bibat Coch. vi. vel vii. ter, quaterve per diem.*

After the third day he had this Powder. *Rx. (defectu Pulv. Gascon.) Lapid. Goa, bezoar. orient. aprin. a a. ℥ i. Sal. prunell. ℥ i. gr. iii. Pulver. st. Camomel. ℥ ii. divid. in sex partes equal. quarum Capiat ager unam ter in die ex Julapii Coch. vii.* His ordinary Drink was Posset made with small Dutch beer to be drank *ad Libitum*. He had about iii or iv ℥ of Hen-broath *quarta quaque hora*.

On the Eighth Day he had this Powder. *Rx. Lapid. Goa. Bezoar. Orient. aprin. a a. ℥ i. sal. prunell. flor. chamomel. a a. ℥ β. Ms. f. pulv. dividend. in vi. partes. sumendas sicut antea prescriptum*

tum est. And the Syrups of the Juleps were altered thus. *Addē præcedentis Præscriptionis Aquis, Syrup. Limon. ʒ ii. Caryophyllor. ʒ i. Cujus capiat 2da. qu. horâ Cochl. v. vel. vi.*

Upon the 11th in the Morning he was over-
spread with a kindly Sweat, the heat in the
Muscular parts not so *pungent* and *intense*, his
Pulse was stronger and fuller: I ordered him to
lie in the same Linen and the same Coverings
without alteration, and to take every two hours
a good draught of Posset or Whey warm, which
he fancy'd most, and in the intervals *Cochl. vi.*
of the *Julep* as it was prescrib'd at first.

There was a good *Hypostasis* in the Urine first
in the Morning, I believ'd that the business was
now in *Vado*, and my hopes did not deceive me;
for this continued between Eight and Ten hours,
and was perfectly judicatory: By his Shirt and
Sheets as we cou'd judge by inspecting now and
then, I am well perswaded that he voided *iii*
lb. at least during the time of this large Evacua-
tion, from whence we may see that this seeming-
ly profuse expense of Blood was truly necessary,
and all that can be said against it is vulgar Error and
Clamour, and therefore sufficient to protect the Re-
putation of its *bigotted abettors*, altho' it can't stand
the test of Physick, rigid Reason and Experience.

I did nothing more to him according to *Hippo-
crates's* advice, so he recovered and was strong a-
gain in six Weeks or thereabout.

Mrs. *Chesal*, the Wife of Monsieur *Chesal* Mer-
chant of *Lisbon*, Aged about 42, had the *Σύροχος*
continual with the Stupor, this was Contageous,
for she got it by going often to assist a Gunner of a
Man of War, who came to her House with this

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Distemper upon him ; for many at the same time Aboard that Ship were Sick of that Disease. She was a very strong Woman and of the same Cardinal size compleat ; her Pulse beat about 80 a Minute, and had the *Petechia* after the Fifth Day spread all over her Body, altho' not in great quantity, for one cou'd put a Finger between 'em in most places, and then the *Stupor*, with Exacerbation.

I prescribed the great Evacuation near as high as in the former Case, an *Emetick* when the Evacuations were over, and *Vesicatories* for the *Nucha*, Wrists and Legs.

She had a Julep ; as R \acute{e} . *Aq. Scorzon. cerasor. nigr. a a.* ζ v. *Meliss.* ζ ii. *epidem. paon. comp. ga.* ζ vi. *theriacalis.* ζ i. *Syrup. i. ex succ Citr.* ζ ii. *Caryophyllor.* ζ β . *Mf. f. Julap.*

And the Powders which were R \acute{e} . *Lapid. Goe. ocul. cancr. ppt. Rad. Serpentar. Virgin. a a.* ζ i. *sal. prunell.* ζ i. β . *Castor.* \mathfrak{D} i. *gr. xvi. Mf. f. pulv. dividendus in ix. partes aequales. Quarum unam sumat 8va quas hora, ex julap. Cochl. vi. mediisq; intervallis à seinvicim, iisdem nempe distantiis, propinentur Julapii solius cochlearia totidem.**

Her Drink was *Decoct. hord.* acidulated with *Syrup granator.* or *Limon*, and sometimes with *Spt. vitr.* or *ol. Sulph. per campan.* and dulcified with *Syr. Caryophyllor.* or Sugar alone. Her Aliment was *Hen-broath*, *Panada*, with a little White Wine, or substantial Gruel with the same allowance, and also made grateful with Sugar.

* Non reperitur pulv. \mathfrak{e} chel. comp. in officinis Lusitanicis.

Because the Symptoms seem'd to give way to the Multitude of the *Vesicatories*, I delay'd the *Cathartick* till the Fifteenth Day, and being satisfy'd that the best of their Effect on the Mass of Blood was well spent, I then prescrib'd the second Purging Potion mention'd when I spoke of the Cure of this sort of *Fever* in general, repeated in the 17th, and on 20th the first Potion *ibidem*. Now the *Fever* and *Stupor* had left her, only her Head was giddy yet.

After the first *Cathart.* some White spots or *nubeculae* were to be seen in the Urine; yet at last there was no more than an *encorema* which subsided something below the middle, neither was it ever so high as the Natural complexion.

On the 20th she had a *Paregorick Haustus*, and so every Night from that time till she recover'd.

On the 24th she had the same Potion repeated.

Rx. Vin. Rhenan. ℥ ii. Cort. Peruv. colori cinamomi splendidissimi emulantis, ac fracti scintillantiss, ℥ iii. Succutiatur Vas ter, quaterve per diem, ac stet super balneum arenae calida ad biduum; Coletur per decantationem & Manicam Hippocratis, bibatq; infusionis ℥ iv. ter aut quater in Die. Renovetur infusio ut primum ad duas alias vices, cum eodem cortice. Gratitude ergo, gustui ac ventriculo, singulis haustibus additur Syrup. Caryophyllor. ℥ β.

She began the Infusion on the 26th, Drank the other Infusions, and recovered her Health and almost her Strength in Two Months.

Here I will give another History of a Patient with Exacerbation and daily Remission, where an Evacuation yet higher was found necessary than

in these; I was call'd to the *Honourable* Major General Offaral, whom I found with a *Σύρεχος Simplex*, whose Exacerbation was every day in the beginning of the Evening, and in the Morning there was a manifest Remission, although his Pulse was frequent, about 90 per Minute Strong, and constant almost as if it were the *Συρεχος*, continual without Exacerbation; he had great heat, his Tongue white, tho' about the middle inclining towards a brown, yet moist, Thirst, *jactation* of his Body, his Urine well saturated with its contents; I told him that there wou'd be need of great Venesection, being one of the largest and strongest Men.

He was Aged Sixty, of the Cardinal size 250 weight, near seven Feet high, with large Bones, well proportion'd, and perfectly well muscl'd; every one who had known him many Years, thought he was without alteration of his Constitution, he wore so firm. I prescribed Venesection *ad ̄xii. per vicem* three times every Morning successively, and for Drink the following Decoction, *R. Aq. font. lb. iv. succ. citr. Sacchar. opt. a. a. ̄x. iij. Chochinel. ̄i. ii. Decoquat. lento igne ut despumetur; adde Aq. Rosar. Damascen. lb. ̄β removeatur ab igne, & depuretur per subsidentiam.* Also he had an Emulsion *ex sem. frigid. amygdal. cum grato sapore Syrup. Limon. violar. a. a. q. s.* Two of the King of Portugal's Physicians were call'd, the Learned Dr. Moroon, and Dr. Lopez Gil. Natives of the Country, to whom I told the Case, and what had been done; we consulted together, and agreed upon continuing the great Evacuation daily, as long as there was need, and that he might have a Julep of, *R. Aq. flor. sambuc. borag. a. a. ̄x. iij. Syrup. Chochinel. ̄i. i. ̄β. Ms. of which*

which he might drink six spoonfuls two or three times *per diem*, and an Emulsion for his ordinary drink. I calculated every Day what the quantity was by Evacuation, for in such a *Fever* the Number of Venesections among the Natives is to Twenty, or *duas duzias*, which is the *Portugese* word for Twenty four. On the sixth day of the Disease, and fifth of the Evacuations, when we met in the Morning, I propos'd that it wou'd be needful that day or next without delay to give an *Emetick*. Dr. *Moroon* answered, that since there were no signs of *Turgescency* of Bile, or *Porraceous* Matter, he cou'd by no means think it fit, for it might only change the time of the Period of the *Exacerbation*, and make the *Fever* a *Synochus biliosa exquisita*. I told him, that the Modern Physicians did not give this kind of Medicament for Vomiting alone, and emptying the *prima via*, but for the Reasons which I have mentioned, speaking about *Fevers* with the *Stupor* or *Phrenitis*, Chap. 2. I next urged the Authority of some celebrated Physicians, particularly *Etmulerus*; but neither of 'em wou'd hear of it. When we met that Evening for our last daily visit, the Learned and Ingenious Mr. *Innes*, Chaplain to his Excellency *Earl of Galway*, Ambassador, &c. happen'd to be paying a visit, and heard the dispute renew'd, and what was said *hinc inde*. We were not tedious or clamorous, for the thing being debated in the Morning, and little more to be said on the Head now besides what was spoke then; they were two against one, therefore I was an *Occasional Conformist*. Neither did they much relish Med'cines for attenuating the Blood and carrying on the *Ebullition* towards a due *Crisis*, only they consented (upon shewing the prescrip-

tion in *Shipton's Pharmacopœia* which I had in my Pocket) to give two or three Doses of the *Pulvis Gascon. per diem*, which was immediately procur'd of one who had some which was very good. We us'd no other Remedies till the Eleventh, on which day we found the first Signs of Coction in the Urine, that day likewise he had a Sweat of some Hours which was kindly, but not a *Judicatory* one; however every day there was a better *Hypostasis*, and the Symptoms diminished.

They were for Purging of him the twelfth, but I oppos'd that, and alledged, that seeing Nature was perfecting the *Despumation* apparently, I thought it ought not to be disturbed, but left to her own way, at least till the Fourteenth. Which according to my *Prognostick* fell out, for this day the *Fever* was quite gone.

We agreed he shou'd be purg'd the Fifteenth, and they propos'd a *Potion* known only yet among the Physicians in *Lisbon* of the first Rank, which they call *Potio Regina*, which was *R. Emul. iv. sem. frig. amygdal. &c. ʒ iii. Panac. Mercur. ʒ i. Diagrid. a a. ʒ i. resin. Jalap. gr. vii. Syrup. dialth. ad grat. sapor. f. P. f. A.* It was made at the King's Apothecary's, who liv'd just opposite to his House, from whence we had all the other *Materia Medica* which was us'd, except the *Pulv. è chel. comp.* It did give him a Vomit or two, and only Purg'd him two or three times, and he complain'd that it did Gripe him much.

The next time I prevail'd that we shou'd make use of another form, which was repeated once or twice, and he recovered; and in a Month after he went to the Army, then encamped, to his Post.

The Evacuation here was about lb vi. altho² in a remitting *Fever*, and this was his highest in this sort, as it wou^d be only his ordinary for a *Σύνοχος Πυρετός vel primaria.* *

I cou^d give more Histories of this, as well as of the other Cardinal sizes, but think it needless; therefore shall proceed in the next Place, to shew, how far this *Theory* will hold in the Cure of *Συνοχέις*, or the *Σύνοχος secundaria continua sed cum exacerbatione & remissione.* As for the distinction of these *Fevers*, and their enumeration, it is done so accurately, by the most Learned and Faithful Historian Dr. *Morton*, that we shall follow him therein.

* NB. When I say six Pounds wou^d be only his ordinary Evacuation, in a *Synochus primaria*, this word is only us^d as a Term of Art, and as the other Member of distinction answering to extraordinary, which Terms I make use of thro² all my established Cardinal sizes, because this quantity may be found necessary only sometimes in their Cure, though an extraordinary case may require the next higher Evacuation.

C H A P. VII.

Of the SURVEILLANCE with an History of a Patient, of the Cardinal size 200 weight; who requir'd an Evacuation of about 3 lx. of Blood, to be let for the Cure of a Dysentery; and another for the Cure of a Patient of the Cardinal size 150 weight; with an Instance of an Iliac Passion, Cur'd as belonging to this Class; and the necessity of this large Venesection farther prov'd, from the unfortunate Cures of Dr. Sydenham, Dr. Morton, and Dr. Willis, as they are described, and recorded by themselves.

HE says, *Hæc Febres in duas classes distribuere necesse est, quarum prima comprehendit simplices & genuinas inflammatorias Febres, in quibus spiritus viribus integris adversus venenatum fermentum insurgunt, & liberè, ut non sine nisu & conamine multo expansi, vividam in parte designata inflammationem efficiunt. Altera continet Spurias, in quibus spiritus ferè deleti ac enecati, inflammationem magis languidam producant, non sine indicibus delitescentis malignitatis.*

Definit, Febrem Inflammatoriam eam esse qua habet notabilem alicujus, Membrana, Glandula, Visceris, Artur, Musculi vel Tendinis inflammationem sibi conjunctam, non autem antecedentem.

Adeo diversa est harum inflammationum, atque Symptomatum inde subortorum indoles, ut passim apud Authores, quasi morbi toto Cælo distantes. nominibus distinctis (Rheumatismi scil. Morbillorum, Variolarum,

larum, Erisipelatis, Herpetis, Apoplexiæ, Spasmodum, Phrenitidis, Ophthalmiæ, Odontalgia, Otalgia, Anginæ, Peripneumoniæ, Pleuritidis, Colicæ, Inflammationis Testiculorum, Mammarum, Hepatis, Renum, Vesicæ urinariæ, &c.) designentur, respectu habito ad Symptomata vehementiora, à texturâ partis affecta orta, potius quam ad Febrem inflammatoriam, &c.

Hoc autem potissimum jam contendimus, Febrem eandem ipsissimam inflammatoriam (sive fuerit Scarlatina, Morbillofa, Erysipelatosa, Variolosa, Rheumatica, Anginosa, Pleuritica, Puerpera, Odontalgica aut alia quæcunque) plurimum a se distare quatenus fuerit genuina vel Spuria.

Posthæc descendemus ad Febres cum inflammatione alicujus Glandula, Visceris vel Membrane particularis conjunctas, uti Apoplexiam, Lethargum, ceterosque morbos soporosos cum inflammatione partis cerebri corticalis sociatos; Ad Phrenesin, Anginam, Ophthalmiam, Otalgiam, Odontalgiam, Pleuritidem, Peripneumoniam, Colicam Ventriculi & intestinorum. Agmen denique claudent Febres quas inflammatio hepatis, Renum, aut Vesicæ urinariæ, testiculorum, uteri vel mammarum, comitatur. Hæc in Puretolog. part. alterâ. Cap. secund.

The last History belong'd to the Class of the Genuine, which being described before, we shall say no more of it, but only this, that as all these require an Evacuation (generally speaking) for their highest, about that which is the low or ordinary Evacuation for all the Cardinal sizes in the *Σύνοχος υπερῆς primaria*. So as far as I have observed, I can affirm much the same thing of the *Spuria*, while not exceeding Fourteen Days standing. Although, if these Distempers happen, to be pretty frequent or Epidemical, in the Months

Months of the Summer, I think every Prudent Physician ought to try, if he can Cure some of 'em with a far less expence of Blood ; and it may indeed happen so, as Dr. Sydenham observ'd in the Years 1669. 70. Cap. 3. de *Dysenter.* And there is this advantage that will attend this Tryal, that the time lost is but one natural day, if it shou'd not succeed ; for the following day, if any of the dangerous Symptoms but present themselves in view, they are to be suppress'd according to our indication.

But if the Symptoms are very violent, suppose with a Patient of the Cardinal size 200 weight, (*ceteris paribus*) there must be necessarily an Evacuation of ℥ii. or 3 xxx. premitted, before we can expect that *Methodus medendi* for the *Dysenteria*, or the *Tormina alvi sicca, cum vel sine Febre quoad Symptomata solita*, shou'd take place : And the Evacuation in all the other Cardinal sizes must be proportion'd accordingly for each.

These are only particular Exceptions ; but the Rule is constant to the best of my observation.

'Tis no Argument, because the *Fever* is scarcely perceptible by the Pulse, that we shou'd lose time in making the Evacuations, for this may happen, and does often among the *Febres Spuria*, where the *Plethora ad vasa* is highest. A notable instance of this, and elegantly described, we have from our *Hippocrates*, Cap. 4 to de *Peripneumonia notâ*, he says, *dolet & thorax omnis, vel saltem pulmonum coarctatio adstantium auribus percipitur, quoties tussit aeger, pulmone non se satis dilatante, praclusis adeo ab intumescentiâ, ut videtur, Meatibus vitalibus ; unde interceptâ circulatione, sanguineque quasi praefocato, nulla fere, praesertim in habitioribus, Febris indicia sunt, &c.*

And

And another mentioned already of the Young Man, who was Bled four times *Schedul. Monitor*.

But ordinarily *Dysenteria's* condemn all the most celebrated Specificks whether *radix Ipecucuan*, tho' repeated till you weary the Patient, or *rad. Rhei*: however prepar'd, and however given with all the proper Vehicles can be invented; and as for *Opium* and *Paregoricks*, I can confidently affirm of it and them, what Dr. Sydenham says of the *Cortex*, that the Distemper must be not a little, but a great deal spent before they can take place, and ordinarily the Patient's strength is lost *pari passu*; and then indeed, according to the vulgar expression, we have *Hopson's choice*, we must make use of 'em or none at all; but the Patient is in a poor condition still when there are many odds against his recovery, and that it is almost surprising if he does, being an Adult, and one accustomed to the use of spirituous Liquors. For I always in a manner found that such, when the Distemper had run out so, as we must come to the use of *Paregoricks* and *Opiates*, they at last yielded to the Distemper, not to the Remedies. How preposterous then are astringent *Opiates* at this time? And as *Ipecucuan* and the *Quina quina* are not worth a Rush while the Distemper is in *Statu*, (ordinarily speaking) and yet upon the commencing of the declination they are admirable Remedies if they are made use of then, and some small time after, neither are of use when the Distemper has run out long (in the declination) with a proportionable dejection of the Patient; so both these act as Evacuating Med'cines, the first, as an *Emetick*, attenuateth the Blood; and next, by the solidity of its Rosinous parts (which very much resemble the *Quina quina*) lieth in the

the *Plice* of the Intestines, and afford a long Tincture for continuing its effect to the Blood in exacting a toll of all sorts of Aliments which pass that way, as I have affirmed of the other. *Opiates* then, on the said account as they attenuate the Blood, must encrease the perspiration, whereby some part of the Morbifick Matter will be cast off; altho' very little, because we can give them only in so infinitely small Doses, in Proportion to other altering Remedies; and then for a *continuum* we can't give them at most above three times in the space of a natural Day, but still these are evacuating Med'cines, which is apparent by Ponderating the Patients who take 'em, so that when they chance to perform any part of the Cure here; it is upon this account; therefore all the Remedies which can be useful must be referred to that Class. For the same Reason the *Testaceous* and *Absorbent* Remedies, even the most Celebrated *ocul. cancer.* and the *Coralia*; however beneficial they may be to Infants, I will give my word; that as to the *Adult*, you may as well give a Bushell as Three or Four Ounces, suppose the Patient cou'd take so much, and be as much reliev'd by the greatest as the smallest Quantity, that is to say, by both alike, or nothing at all; nay, given in such quantity as Ounces they must do hurt, both by their Weight, Coldness and Earthyness.

Therefore *astringents*, which lessen the Perspiration, must add fuel to the Fire, and as the *Rad. Rhei*, by its Purging mild qualities, does not encrease the Perspiration, hardly on that account more than *Cassia*, it can be of no use at that time when *Pharmaceutick* Remedies begin first to take place; and as for its Astringing quality, I don't see how at the great declination of the Distemper

per it can be serviceable on that account, unless it is torrify'd, whereby its Cathartick property must be taken off, then it may be given as an Alterative, but still it won't do, for these Reasons; First, Because it can't be given in quantity enough to produce that effect; and next, because of the lightness, and porousness of its Particles, it neither will lie long in the *Plice* of the intestines, and if it shou'd, it will yield no more than one Tincture, so that upon the whole, I think this may almost even be excluded the *Class* of the *Antidysentericks*.

The *Dysenteria* then, is only a Symptom of the *Συρεχὴ νοσὴ* or *Σύνοχος secundaria sed illegitima seu spuria*, which has always a *πληθώρα* more or less, which must be distinguished by the Cruelty and Vehemency of the Symptom, by the Cardinal size, to which he belongs, and the duration, or standing of the Distemper, &c.

Dr. *Willis* observ'd, that when it rag'd at *London*, it carry'd off not a few to their Grave in Six or Seven Days; and Dr. *Morton* tells us, that in the year 1666, beginning in *August*, in a manner the whole City was seiz'd with it, of which Three, Four, or Five Hundred were Buried per Week for some Months that Year, who dy'd in Fourteen, Seventeen, and Twenty One Days Sickness.

When the Distemper alloweth a truce so long, as for the Patient to walk to anyplace very near his House, or that he is able to walk up and down his House for Fourteen Days time before this fail him, if call'd at this time, I don't doubt to Cure him, of which I shall give an instance or two.

Mr. *Samuel Pawson*, an Officer of a Ship, while I was at *Lisbon*, sent for me. He had been ill about
Twelve

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Twelve Days, and in this condition. He was a Man about Forty years old, of the Cardinal Size 200 weight. I prescribed Venesection $\frac{3}{4}$ xii. once a Day to the Fourth, after the Second Evacuation he took of the *Ipokecuan*, $\frac{3}{4}$ i. with due *Regimen*, and repeated it again the Day of the Fourth Venesection, but the Symptom scarcely yielded in the least appearance to this *antidysenterick Specifick*; therefore I resolv'd to raise the Evacuation to the highest, which is the low one for that Cardinal size in the $\Sigma\upsilon\nu\omicron\chi\omicron\varsigma\ \sigma\upsilon\pi\epsilon\tau\omicron\varsigma$, viz. lb v. After this I prescribed the *Quina quina* $\frac{3}{4}$ i. made into an *Electuar.* with *Syr. Caryophyllor.* which before he had taken $\frac{3}{4}$ vi. conquer'd the Distemper; however he took it all, and then I only order'd him a *Paregorick* every Night for Six or Seven Days *Prophylaxios gratia*, at which time I prescribed him again $\frac{3}{4}$ i. to be taken as before, with *Canary* or *Vin. Lusitan. alb. & Calcavalla*, with one second or one third of *aq. font.* He was perfectly cur'd; however I advis'd him to take the *Paregorick* as before for Eight or Ten days longer.

Charles Laurange Wine Cooper, and House-keeper in *Lisbon*, had this Distemper Fourteen Days, and then being in this condition sent for me. He was a Man aged about 30, of the Cardinal size 150 weight.

I prescribed the great Evacuations $\frac{3}{4}$ x. *per vicem* as in the former Case, and on the day of the Fourth Venesection I ordered him the *Radix* $\frac{3}{4}$ ii. That Night the Symptom gave way, and he had a good Nights Rest. The next day he seem'd better, but the *Fever* was not quite gone, altho' the Exacerbation was evidently less. The next day after that I gave him the *Radix ad* $\frac{3}{4}$ ii. gr. x. and so the Third time, and the *Fever* and

and *Pathognomonick* Symptom both ceas'd; upon which I prescrib'd him the use of the *Paregoricks* every Night, for Eight or Ten Days. In the Cure of both, and all such Patients, I prescribe the use of any of the *Cibi Eupepti*, Partridge, Chicken, Veal, Rabbet, Soals, *Salmoneta's*, Crawfish, Lobster, with proper Sauces agreeable to their Stomachs, after the Evacuations; and during that time, Hen-broath, or some of the mentioned, if they can.

In the time of the Evacuation, for Drink I prescribe Emulsions of the 4. *Sem. frig. maj. Pava-ver. alb. Syr. Violar. Dialth. Miliss. Fernelii*, &c. The *Decoct. alb. Decoct. hord. &c.* and immediately after them the liberty of White-wines moderately; or other well Brew'd, clear, and mellow Malt Liquors, if not too strong.

In both these Patients the *Fever* was to be found by the Pulse, and the Exacerbation also, tho' the Symptom was the only terrible thing in view: However I can affirm, that where the symptom is cruel, you'll always perceive the *Fever* either by the Exacerbation, or by the alteration of the Tongue as in *Fevers*; and generally speaking, a high colour'd Urine, tho' the *Fever* does not appear by the usual *Phænomena*; and that the Evacuation is much the same in all the Cardinal sizes, *cæteris paribus*.

This will still appear better from what exceptions Dr. Sydenham makes from the *Methodus Medendi*, he laid down in the *Schedul. Monitor.* for the small Evacuation by Venesection, which he at first saith is enough, using *Catharticks* afterward, for the Cure of the *Συνοχὴ Spuria*, which was the first time he took notice of it in his Book, Anno 1685.

And it will still be clearer, from what he alledgeth against Dr. *Morton's* Practice, tho' he don't name him, nor Dr. *Willis*, who were the two great abettors of the Practice of the *Cardiaca* and *Alexipharmaca* among our Country-men, which they instituted in place of the great Evacuation, where the Constitution of the Patient, and the *Fever* requir'd it.

I must beg leave to take the same freedom with Dr. *Sydenham*, as he does with others, and treat all Medical Authors with that Candor and Respect due to their great Learning, and Laborious, Rational Practice; yet as Dr. *Sydenham* says himself in *Epistola D. D. Carolo Goodall, Med. Doct. &c.* We are oblig'd in Conscience, Honour and Duty, to mind the publick good, without regard to the obloquy we may expect, from some more narrow Souls, whose *genius* and inclinations, are fetter'd to their own particular Interest. As our great Master says, *Ars longa, vita brevis, occasio celeris, experimentum periculosum, judicium difficile*; the other must be equally true, *humanum est labi*; and every good Man must lay his Hand on his Breast, and say, *Humanumq; à me nihil alienum puto. Non omnia possumus omnes* said that excellent Naturalist, Moralist and Poet. It is very certain no one Man ever did, or ever will be able, to bring the Art of Physick to its Perfection, therefore we must be all helpful to one another, and Pardon Escapes or Human Infirmities on all hands; and on the other side, let a Man be deservedly great in the Profession, as Dr. *Sydenham*, Dr. *Morton*, and Dr. *Willis*, truly were, yet it is no greater Crime to take notice of their Mistakes, and Humane Infirmities in their Works, than it was in them, and all the other Physicians, who have been Eminent, and followed

lowed *Hippocrates* in their Generations, to discover the Rocks that he sometimes Shipwreck'd upon, for the benefit of all other *Pilots*, and the common good of all those committed to their Charge: And certainly no Man ever appear'd of the Profession with a greater strength of Judgment, and with a brighter *Characteristick* of that which is true Honour, Integrity, and Honesty. I think, indeed, there is a good Parallel between the commonweal of Physick and that of Bees, as represented by that incomparable *Naturalist*; he says that of all the Animals, (meaning the irrational)

*Sola communes natos, consortia testæ
Urbis habent; magnisq; agitant sub legibus ævum:
Et patriam solæ, & certos novere penates.*

And then, describing their different tasks all aiming at the same end:

*Pars intra septa domorum
Narcissi lacrymam, & lentum de cortice gluten,
Prima favis ponunt fundamina; deinde tenaces
Suspendunt ceras: Alia, spem Gentis, adultos
Educunt fœtus: Alia, purissima mella
Stripant; & liquido distendunt nectare cellas.*

For my share, let it be any thing rather than a *Drone*. I own freely my incapacity for the work which I have begun; it had been more becoming those who are infinitely more Learned: However when our Friends or any Body's House is a Fire, that good Man who first goeth with his own Bucket, and throweth Water to the best of his Ability, is Praise worthy, tho' it was the Multitude that did extinguish it.

Non nobis nati sumus shall be my Maxim, therefore I will proceed without farther Ceremony.

Dr. Sydenham, giving the History of that which he had call'd the *Winter Fever* in the *Postscript*, again in the *Schedule Monitor*. * says, being call'd to a Patient with this *Συνοχὴ Spuria*, he prescribeth Venesection to $\bar{3}x$, and then a *Cathartick* every other day to be repeated twice more with a *Paregorick* at Night, and a *Vesicatory* apply'd after the Venesection. All his mistakes lie in this point, because he never consider'd the Constitutions of the Adult, from whence we might make the Indications of Venesection; and if you'll only make an Evacuation of $\bar{3}xx$ in a Constitution of the Cardinal size 250 weight, *ceteris paribus*, where $\bar{1}bv$ may be indicated, it is no difficult matter to be understood how all these irregular, mischievous Symptoms must necessarily follow, which he has faithfully deliver'd to us; and so it is to be understood of the Cardinal Sizes. He first takes notice of their being subject to relapse, and attributeth this to the *Aphthæ* that remain'd uncur'd in the first *Fever*; however it is obvious that the *Aphthæ* are only a Symptom, or some small superficial Ulcers, and confin'd to the narrow limits of the Mouth, therefore can never, without a powerful *Seminary*, or stock of *Morbifick* Matter stor'd up still within the Habit, be able to produce a new *Fever* of themselves. This is Cur'd he says by the *Quinquina*; but I suppose it is in Children he means, for I dare say, that that *secondary Fever* won't be so easily cur'd in the Adult by $\bar{3}i$, or two either; or at least very seldom.

* Examination of Dr. Sydenham's Monitory Schedule.

He proceeds next to the *Phrenitis* and *Coma*, which frequently supervene in this Practice; first he ascribes 'em to too hot a regimen of Practice, and then he says, *Et ut verum fatear, ita proclivis est in hoc morbo ad phrenesin lapsus, ut persapè sua sponte, nulla ejusmodi data ansa illico subrepat.* And again, *Cum autem hac febris species præ cateris, quas mihi unquam videre contigit, cerebrum petere, quasi apta nata sit; nec sine ingenti tum molimine, tum agri periculo, inde queat deturbari; &c.* *Et quæ de Phrenitide hic dicuntur, de comate etiam huic feбри supervenienti dicta sunt, in quo ut in dicta phrenitide materia febrilis in Caput sursum fertur, ac proinde si lingua abbedinem excipias, nulla sunt febris signa, at æger apyrexia prorsus frui videtur.* Here, if he had minded what he said, *de Peripneumonia notha*, he had succeeded much better.

But again he says, *Quoad febrem autem haud deterrendus est Medicus à faciendis prædictis Evacuacionibus, si fortè membrorum subsultum vel motum Convulsivum in ægri corpore persentiscat, dum Pulsus tangitur; quandoquidem in quibusdam generis nervosi affectibus, tam Venesectio quam Purgatio, etiam sæpius repetita non tantum non nocent, sed & necessario sunt adhibendæ.*

Here I think we may allow that he fairly gives up the Cause; for if when an acute Distemper has harraiss'd a Sick Person many Days, he approveth of instituting the great Evacuacions repeated several times, why was it not much more safely done in the beginning of the Distemper, when sufficient Spirits were potentially in the Mass of Blood? But this is to be imputed to his not taking notice of the highest *Plethora's*, or at least, not having sufficiently distinguish'd 'em in *Fevers*.

The next thing this truly great Man takes notice of was, that this *Fever* was not to be cur'd by the *Quinquina* in how great quantity soever, which is indeed a remarkable observation, and is so true, that the Patients relaps'd six or seven times in one year in Dr. *Morton's* Practice, and at last he was forc'd to put some of them into a *Chalybeate* Course, for being guilty of a *parsimonious* Evacuation, and after attempting the Cure by that Remedy.

Now he observeth, that throughout this Summer 1685, altho' this *Fever* was *Epidemick* which he call'd the *Winter Fever*, yet there were not a few who were taken with *Dry Gripes*, or Tortures of the Belly and Intestines alone, or with Dejections and Gripes, (a *Diarrhea*) without the more *Pathognomonick* signs of heat, inquietude, &c. of the *Fever*; and yet they were to be treated in the same manner, as if the *Fever* had appear'd with the usual Symptoms. Sometimes also it appear'd only as a *Cholera*, especially upon taking Drink or any small matter of Food of the more solid sort, which was likewise to be reduc'd to the same *Methodus Medendi*.

But here I am apt to think that the *Pathognomonick* signs did nevertheless shew themselves by the Tongue, and in the Urine, which did indicate Venesection according to the vehemency of the Symptom, the Cardinal size to which the Patient belongs, and to the duration and standing of the Distemper, &c. This being overseen, it was no wonder that some of these obstinate Symptoms shou'd afterward succeed, which he relates himself, and proposeth a method of Cure: for, he says, if notwithstanding that this *Diarrhea* being treated as if it were the *Fever* Solitary, and yet
it

it turns to a confirmed *Dysenteria*. *Ita enim atrox & vehemens est hic morbus, ut si Dysenteria jam confirmata adhuc purgare satagas, perquam metuendum sit, ne Dysenteria sumptis inde viribus in præceps lata, agrum præ incredibili fermento, quocunque te postea verteris, diutius excruciet, vel etiam vitam spoliaret.* Therefore the Patient must be cur'd only by *Laudan*. Indeed the Doctor's Prognostick I believe may sometimes be good; for after the Patient had only two small Venesections, and fourteen or sixteen days run out in the fruitless use of *Catharticks*, nay, I may say hurtful use, for the Patient in this space, which is the time for the Determination of a *Fever*, absolutely Acute, being all this time harraß'd with Purges, every one will allow must have a far less stock of Spirits in the Mass of Blood, than if he had taken none of them. Had he taken nothing at all the whole time, he had been in a better condition, for the *Diarrhæa* wou'd have continued, and the Blood had been still replete with Spirits, so that a due Venesection wou'd have still remov'd the Material Cause so far as needful, &c. However even in this Case, if I were call'd to a Patient of the Cardinal size 200 weight full, or 250, &c. and found the *Pathognomonick* signs or sign of the *Fever* as is said, for the first of these, I shou'd not in the least doubt to make Venesection to \bar{z} xxx. or \bar{z} iii. \bar{z} iv. and more for the other *pro re nata*, and then compleat the Cure with the *Radix* or the *Quinquina* with *Laudan*. every Dose.

As it seems very likely to me these irregular and obstinate Symptoms succeeded a too scanty Evacuation in the Doctor's Practice, so there is no doubt but he cured a great many even after this way, in such manner as we have seen, so we do cure a great many of the Cardinal size

100 weight, with the Evacuation by Venesection as little as the Doctors, or only vi. or \bar{s} . x. more, without the more protracted method of calling *Catharticks* to compleat the Cure.

Next he brings the *Iliaca Passio* as a Symptom supervening to this *Fever*, as he did likewise in the *Continual Fever* of the Years 1661, 62, 63, 64. He affirmeth that this too, cannot be Cur'd by that method, which is due to the *Fever* from whence it took its rise, and this he alledgeth as a proof, to confirm what he said of a Confirm'd *Dysentery*, which likewise was to be cur'd, without regard to the *Fever* on which it did depend; and so nothing but Opiates were needful there. However here he prescribeth immediately Venesection *à brachio pro una vice*, *enemata Nicotiana*, pill. *ex duob. cum Mercur. dulc.* And if the Pills shou'd be vomited up, to proceed with *Laudan. debitis intervallis*, till the *Vomiturition* and pains of the Belly cease, and then to repeat the same Dose of the Pills, having a watchful Eye on the first motion to Vomit, to repeat the *Laudan.* and again if need be, till they operate and restore the inverted motion of the Intestines. He likewise tells us indeed, like a good Man (who must conceal nothing of Medical Observation in the Cure of any Distemper) that the *Aphtha* superven'd to this Disease, which he wou'd also attribute to the Retention of the acrid Particles of the *Catharticks* too long in the Body, as well as to the Morbifick Matter of the Distemper, which he cur'd well enough with the use of the *China China* and a Gargarism.

Although I never observ'd this *Iliaca* to supervene any *Fever*, but that to which it belongeth, and this I have seen two or three times in the manner following. I take it to be no other than
the

the *Συνοχος* *secundaria* *sed Spuria*, or that which Dr. Morton calleth *Συνοχη*. First, (as Dr. Sydenham himself describeth very well) the Patient is taken with Rigour and Horrour, Heat and Cold interchanging and taking their turns, which are Signs not Counterfeit of an *Impending Fever*. In a few hours he feels a violent Pain and Gripping in his Intestines, which increaseth and being at last insupportable, the Patient either takes some spirituous Liquors, as Ale, Wine, Brandy, with some hot Ingredients, such as Pepper, Ginger, or other Spicery, or some Purging Med'cine; these things being most obvious both to the Patient and his Friends. Thus it happen'd to those whom I saw in this Distemper, although I don't think that this doth much heighten it, for once or twice; but that which is the worst of it is, they lose two or three days it may be, in all which time it's probable again they are continually plying the Patient in this manner inwardly, and by hot Napkins, Fomentations, Ointments, Externally, by which the Intestines being kept always in a *Balneo*, it is no wonder that the Morbifick Matter shou'd rush violently where part of it is lodged already; for doubtless all the Blood Vessels and Muscular fibres of which their Coats are made up, can't but be extreemly relaxed by the hot Liquors continually cramm'd into their Cavities, or the long Pipe, and further'd from without the Body by these applications, which must bring a vast Fluxion at last of the *Causa Materialis* on some one of the small Intestines, whereby the passage of the Excrements is shut up, an equal inflammation doth accompany it; and finally there followeth an inversion of the Peristaltick Motion.

174 *New and Exact Observations*

One *John Ross*, who belong'd to the Army in *Portugal*, a Young Man about 34. of the Cardinal size 200. weight, after eating Sallat some Nights, in Rainy, Cold weather, in the Winter time, was taken in this manner: *F. Venæsectio bis per diem ad ʒ x. duobus diebus successive, & semel die tertio. Bibat quatuor vices per diem ℥ β. Brodii & pullo femineo, & parum hord. Gallic. cum macis tantillo ad gratum saporem, addit. f. q. salis.*

Rx. Aq. scord. comp. ʒ i. β. Cordial. frig. saxon. Decoct. hord. a a. ʒ i. Ms. ex cochl. i. aut ii. cujus capiat serà & manè post quartam Venæsectionem Laudan. Liquid. Sydenhamii gtt. xxv. sed tertio die non Repetat. antè celebratam Venæsectionem pro ultimæ vice.

This day the Symptom remitted, *Die quarto.*

Rx. Pill. è duobus ʒ ii. Mercur. dulc. ʒ i. cum q. f. bals. peruv. f. Pil. no. v. cap. & chochl. i. syr. violar.

It did not work till near Night, and then only he had a Purgative stool or two. As soon as it had done, he took the Paregorick, and pass'd the Night pretty easy. *Die quinto*, he had early in the Morning this Clyster,

Rx. Decoct. commun. pro enem. ʒ x. Electuar. Diacatholic. ʒ i. ol. Lini ʒ i. β. Ms.

When he had rejected this, then *Laud. gtt. xxxv.* and in the Evening of this day, he took four Ounces of an Infusion of the *China china*, in *Rhenish* with *gtt. xx. Laudan.* which was repeated every four hours unless asleep, only the *Laudan.* was repeated but every eight hours to *gtt. xii.* When he had drank ℥ iv. he found himself free of

of all heat in the *Viscera*, nor was there any sign of *Fever* by the Pulse, although a great lateritious Hypostasis in the Urine; I gave him one days Rest from all sorts of Med'cines, and the next day he began to take it in substance.

Rx. *China china* ζ i. divid. in viii. partes aequalles. Cap. unam quarta quaque hora ex *Vini Rhenani* poculo. And so dismiss'd him without any relapse.

I never in my life, since I knew the indication of Phlebotomy, observ'd the *Aphtha* to succeed this Practice, after a due treatment either of Dr. Sydenham's Winter-Fever, or this.

The Doctor's next caution is, that in the Cure of the *Fever*, according to his *Methodus Medendi*, as in *Rheumatisms* and those other Diseases which require large Evacuation, we must not insist in the Evacuations till all the Symptoms cease, but must be left to Nature and Time, which are good Physicians, to see what they will do.

This is again shewing the defect of his way of Practice by confession, and where this defect lieth will be evident, if we affirm from certain Experience that this Caution is useful, nay, and what is to be faithfully observ'd by us in applying the greatest Evacuation for the Cardinal sizes of 200 weight, as in every Patient, if mentioned in *Rheumatisms*; nor do we continue the Evacuation till the *Pathognomonick* signs cease even in *Fevers*, &c. although we don't even then, commit the whole business to Nature and Time; for having solv'd the Doctors two Problems which he affirms to be insuperable, viz. *Prim. (inquit) enim nescit ars quo pacto Materia peccans ad expulsi-*
nem

nem subeundam rite preparanda sit. Secundo, Nec si hoc sciat, certa ulla habet indicia, quibus de hujusmodi preparatione possit moneri. I say in having solv'd the first of these, chiefly in making an Evacuation absolutely necessary for the highness of the *Plethora*, the Nature of the Disease, and the Constitution of the Patient; the second Problem is next answered; when we assist Nature timely; that is to say, half of the time that is necessary for determining of Distempers absolutely acute; our Evacuations being over by the seventh Day, she has time, not being oppress'd and born down with an immense load of Febrile Matter, with the help of the *Antifebriticks* and moderate *Cardiacks*, to concoct the remainder of that which is still behind, and to discharge it critically both *per Stomachum* sensible and insensible, and in the Urine.

The next Caution he gives us in the Cure of this Winter Fever, is that, *Si methodus laudata febrim non prorsus tollat, id saltem agit, ut intermittere cogatur*, and then is it certainly Cured by the *China china*. But here we must remember how very uncertain this is, when by the Doctor's own confession this Fever was the most apt to seize the Head by *Phrentis* and *Coma* of any he ever saw, and I dare promise, that making only for instance an Evacuation of $\frac{1}{2}$ xx. and then committing the remainder of it to what can be done by Catharticks, in a Constitution of the Cardinal Size, 200 and 250 weight, *ceteris Paribus*, this will more infallibly succeed, than make the Fever intermit.

In the next Paragraph, beginning at *Econtra sicuti methodus illa, &c.* he takes up about half a Sheet, and so ends the *Sched Monitor*. in which he very judiciously confuteth the Practice of those Gentlemen, who using less Evacuation, or the same

same as himself by Venesection, commit the rest
of the Cure to *Cardiacks* and *Alexipharmacks*. I
shall only repeat a very few of his memorable
words, and recommend the Reader to peruse the
Author for the rest, who has done the thing un-
exceptionably. *Cujus de malignitate (sive notionem
sive verbum dixeris) opinionis inventio humano generi
longè ipsa Pyrii pulveris inventionè lethalior fuit. Cum
enim ea febres præsertim malignæ dicantur, in quibus in-
tensioris præ cæteris inflammationis gradus conspicitur, hinc
Medici se ad usum Cardiacorum & Alexipharmaco-
rum nescio quorum contulerunt, quo scilicet per cutis poros
expellant, quod somniant Venenum (hoc enim est dicen-
dum, nisi malint verbis ludere, quàm illud quod potest in-
telligi, seriò proponere) ex quo factum est ut regimen ca-
lidissimum Methodumq; huic parem iis morbis adaptave-
rint; quæ frigidissima tum remedia, tum regimen præ cæte-
ris sibi postulabant.* Indeed in the lower Cardinal sizes
100 and 150 weight, this Evacuation may, with
the assistance of the Catharticks, oftner conquer the
Distemper than in the higher Cardinal sizes; but
even then I'm very sure this Practice is most uncer-
tain, for this is so seldom, that it is only an excep-
tion from the Rule; and were that excellent Phy-
sician now alive, and I cou'd ask him whether
there were not several of his Patients of these in-
ferior Cardinal sizes, who after this treatment had
the *Fever* to intermit, and yet then cou'd not be
Cured with any quantity whatsoever of the *Qui-
na quina*, I am well perswaded that so publick Spi-
rited a Man as he was, wou'd frankly own, that
not only several, but that when he cou'd do no
good farther with this Medicament, he dismiss'd
great Numbers of them to Nature, and to Time.

By

By all that I can find in Dr. *Morton's Pyretologia*, Dr. *Sydenham* had observ'd this Winter Fever as soon as he, for all Dr. *Morton's* Histories of Cures are of 1689 and 90.

Dr. *Morton*, as I have already said, has Learnedly distinguished all the differing Fevers that belong to the *Σύροχος secundaria* or *remittens*, and given us several Histories of Cures very faithfully, but being guilty of the same Error Dr. *Sydenham* was, in not indicating Venesection right two ways, first in not performing it timeously, next, in falling much short of the due Evacuation at last, and which is worst of all, when the Patient falls into extrem and dangerous Symptoms for want of it; whereas Dr. *Sydenham* either flies to Venesection, or committeth the Disease to Time and Nature. He neglects this, and loads the Patient internally with the *Alexipharmaca*, and the *Cardiaca*; and externally with *Vesicatory's*, Ointments, *Subpedalia*, *atque id genus alia*, till the Patient either must yield to the Distemper, or if by chance in the two high Cardinal sizes, these puny and tormenting Evacuations, continually being multiply'd for three Weeks, Twenty Four, Twenty Six, and Twenty Eight Days, the Distemper does shew it self under the type of the *Σύροχος genuina*, then Venesection, being still indicated before the use of the *China china*, he does proceed still to the finishing part of the Cure without having laid the Basis; therefore probably many of them, as well as Mr. *Gumley*, Relaps'd Five or Six times in a year, because the *seminium* of the Distemper was still left. Without doubt in all Fevers, where Bleeding is indicated at the beginning, the *Plethora* encreasing, the healthful *Pondus* for instance to iv or v lb. above it, this Remedy alone, beyond all

all in the World reduceth it with the greatest certainty to an equality, or near the Natural, suppose we come only within ſb i. of it, or thereabout ; Nature then will be able to do her ſelf juſtice, eſpecially with the help of Art, to break the *Lentor*, and by encreaſing the Velocity of the Blood, to comminute abundance of the Groſs and Courſe Chylous Particles in the Circulations of Five, Six, or Seven Days, whereby they are made ſmall enough to be carry'd off by the ſecretory Glands of the Kidneys by little and little.

And if Nature requireth ſo many Days, to comminute ſo ſmall a quantity of theſe too big Particles, to make them fit for ſecretion, is it not moſt contrary to all Medical Philoſophy, to think ſhe ſhould be able to manage four times as much, and it may be conſiderably more ? As ſcarcely any of theſe *Συνοχῆς ſpuria*, ever, however treated, have a *Cris* by a ſenſible *Διόρθωσις*, therefore they require longer time to concoct the *Materia morbiſica*, a conſiderable part of which muſt at laſt be ſecreted with the Urine, and that for ſome days.

Therefore the Venefections ſhou'd lead the Van, and have the firſt ſhock of the Cure intirely committed to them ; ſo that theſe being over by the Seventh of the Diſtemper, there remaineth one half of the time for Concoction, which a Diſeaſe abſolutely acute requireth.

To particularize Good Men's Miſtakes, and not only ſo, but to diſſect them, as it were, ſeems indeed inhumane ; but the Miſtakes of theſe two deſerving, worthy Perſons, leading the croud of the Faculty into their Error, and think they ſay enough for their own Vindication, when challenged, if they can alledge the Authority of
Dr.

Dr. Sydenham and Dr. Morton, Mens Lives do pay for it in the end; therefore this Consideration does prevail with me to mark these Rocks which they receiv'd damage from, and to follow them as able Pilots in the rest of their Conduct.

I shall give an instance then or two of these Mistakes (according to my Judgment at present, yet with Submission to the Learned and Candid, I promise, as an Honest Man should do, with retract and correct any thing when I shall be better informed) in the Doctor's Practice, whereby one may see how and why it was so; and next I will repeat, some of the Doctor's own general Observation of this Fevers, when he sums up the History in the Appendix, which will fully shew the necessity of what I plead for, and so come to a Conclusion.

DOMINUS GUMLEY vir quadantenus obesus quinquagenarius. Zuxo² spuria Rheumatica, nimis dolore punctorio regionem inter hypochondrium & Ileum sinistram sitam occupante; sed nullam notam febris gerente; excepta multa Urinae rubedine & turbata, laboravit. Quinques anni Spatio Scil. 1690, recidivam habuit, & toties una Venesectione, Bolo Theriac. Andromach. & pulv. è chel. comp. Vesicatoriis, Julapiis, Cordialibus, Linctibus, Pectoral. Laudan. expansionem spirituum conatus est Medicus, & post quasdam morbi inducias propinavit singulis vicibus ad tollendam febrim China china ζ iii. & ad prophylaxim amplius ζ ii. prescripsit partitis vicibus sumendam quasi spatio Quatuordecim Dierum, præmittendo singulis Catharticum Decocti amar. cum duplic. Senna. Sed semper Morbus reversus est. It is very probable, Mr. Gumley was a Man of the Cardinal size, about 200 weight, there was no more than ζ xii. made by Venesection, and at first it is likely the Plethora did

did rise to lb iv. or v. By this method a Man must be kept continually a Bed, and ply'd Night and Day with these hot internals, the Air about his whole Body between the coverings being vastly hotter than the rest of the Ambient, and this much longer than the time which is sufficient to determine a Distemper absolutely acute; in so long a space, there is no doubt but a good deal of the *Lympha*, or what Dr. Sydenham calleth the separation by *Flores*, will pass off by the transpiration through these forcible means in the first place; which ought to accompany the other separation by *Faces*, about the time that the gross Chylous Particles are sufficiently prepar'd for expulsion; so that the necessary harmony of these two *Phænomena* being violently broke, Nature is præcipitated and antiverted from her regular course, which she always takes; altho' many times she is unable to perform her task without the help of Art.

After so many Days treatment it may chauce to Cure at last, but it is more likely that the *Plethora* may be consum'd only to one half of the Monthly *Plethora*, or it may be less, but still in it there are a vast many *Moleculæ* much above their due bigness, which is a true seminary of Cohæsion; and they are too big to be expell'd by the *China china*; because Nature had not her full scope, or that room within the Circulatory bounds which was her due, in the first Days of the Distemper when the Blood was yet replete with vital Spirits.

Dris. Morton. Pyretolog. Part 1. Pag. 375. Hist. 9.

Mr. Immins, at the end of the same History, for the same Distemper, had several Venesections (but never exceeding $\text{lb ii. or } \frac{1}{3} \text{ xxx.}$ for any Patient) by which, and the help of the Evacuation with the *Aphtha* which at last succeeded, because the Evacuation had been too little at first, he at last recover'd entirely without any Relapse. This Gentleman's own words are, *Plurimum licet debilitatus ac attenuatus, liberatus demum reconvale-scebat.*

The Wife of Mr. Patchin, Thirty Seven Years old, had another such Fever, which at last turn'd Malignant.

He that was the Ordinary here, had prescrib'd Venesection to xvi or xviii. $\frac{1}{3}$. and treated her as Pleuritick, and was going on right, only he was banter'd out of his Senses by the Authority of this Physician, who had a greater Reputation in the World than he had at this time.

On the Fifth Day of the Distemper Dr. Morton was call'd, and he sayeth, *Accersitus inveni fe-brem propriè esse Ζυγχαυ spuriam ac inflammatoriam, Rheumaticam verò potius quam Pleuriticam & repitita Venesectione in malignam mox transituram; Vene-num inde auctum vim spirituum elasticam plurimum obruisse; quare nullam amplius Venesectionem voluit, sed suo modo prescriptum est usq; ad Diem Morbi Sep-timum. Quo Die indicationem iterum perperam instituit adamussim, Symptomatibus sic stantibus post Corticis $\frac{1}{3} \text{ i.}$ intra sumptam, scil. Urina ferè sani coloris, pulsus languidus & agra insomnis jacebat, perterrita, & qua-si delira, prescripsit Galban. Afs. fatid. Castor. Mithri-dat. jungenda cortici, ad formandas pillulas quarum sumpsit iv. quarta quaq; horà, &c. sub vesperam ejus-dem diei octavi, hæc symptomata non tam à debilitate systematis nervosi quam à gradu Veneni aucto ortum suum*

suam duxisse suspicati sumus (dicit Author) $\Sigma\upsilon\nu\chi\epsilon\acute{\iota}$
scil. febre à repitita Venesectione & usu laudani in
malignam $\Sigma\upsilon\nu\chi\epsilon\acute{\iota}$ mutata.

If he had said the preposterous use of the
Cortex as well as the *Laudan.* then he had come
nearer the purpose; but he ordered *Ens vener.*
three times on the Eighth Day, and then that
Night *H. S.* the *Alexipharmack* Bolus was pre-
scribed, whereby the Patient (he sayeth) had
the symptoms much abated. Now it is evident
this happened only by the Cessation from the
more forcible Medicament the *Cortex*, &c. Where-
fore repeating on the Ninth Day the *Alexiphar-*
mack three times, and every sixth hour, Pills of
Galban. ammoniac. Castor. ass. fatid. with a Brandy
Julep to be given often, for refreshing the Patient,
which I call Brandy, because the Distill'd Spirits
have a proportion of \mathfrak{z} iv. β . to \mathfrak{z} vii. β . of the
Simple Waters; it was no wonder altho' he ab-
stain'd from the use of the *Cortex* and *Laudan.*, &c.
(which are certainly much more forcible Medi-
cines) that still by this hot Regimen the Distem-
per should be protracted till the Twenty Third
Day with the utmost hazard of the Patient's Life;
and now at last all that was purchas'd (*postquam*
integrali istius mensis spatio omni medicamentorum far-
ragine dimicasset) the Fever appear'd a genuine
 $\Sigma\upsilon\nu\chi\epsilon\acute{\iota}$, with periodical Paroxysms and Remissions,
and then again he betaketh himself to the use of
the *Cortex* for some days, with the *Alexipharmack*
Bolus Morning and Night; his own words are,

A quo tempore planè convaluit, multâ artis nostræ
ope, eaq; diu continuatâ; difficulter admodum ab orci
faucibus liberata. In aere rusticano quidem, semel
vel bis levem recidivationem, intra spatium duorum
mensium perpeffa est, illicò verò repititio corticis usu
liberabatur.

She was a Month in cure, and afterward sent into the Country two Months more, where she relaps'd twice; here this Patient was harras'd three Months, when she might have been perfectly Cured, and the *Fever* taken off with every Symptom in fourteen days, only *Prophylaxios gratia* the *Coina china* shou'd be repeated twice more in the two weeks following, ʒ i. at a time every seventh day. * By the bye if I mention only some of the Doctor's own Observations, when he sums up his Discourse of these *Fevers* in the Appendix, what I have endeavoured to advance will be confirmed even without my commentary.

Ipse Author Febre Συνεχῆν simplici laboravit quæ postea mutata est in Συνοχον, posteaq; valetudinarius fuit tremestri spatio. Pag. 417. dicit, Multos passim videre fuit, post sextam vel septimam exacerbationem (ubi natura à veneno sensim aucto demum victa fuerat) exultantibus omnibus paroxysmorum & remissionum vestigiis Febre maligna continuâ, quam diris spasmi & deliria comitabantur; 17. vel 21. morbi die è vitâ sublato. Ibid.

Alios autem Diarrhæâ, Vomitione, vel doloribus quasi Pleuriticis, Peripneumonicis aut Colicis, aut alio aliquo Συνεχέῃ Spuria symptomate vehementiori attritos & confectos, die morbi septimo, nono, vel undecimo fato quasi præmaturo occisos.

Insuper qui ex morbo evaserunt fere omnes quos ego novi hyemem subsequenter valetudinariè transigebant, p. 418.

I am very sure that if the Physicians had had the *Ipopecuan* to help them in those years, for the Cure of the *Dysenteria's* and *Diarrhæa's*, it wou'd

* *Pyretolog. Part. 1. Pag. 383. Hist. 10.*

have been the same thing, they wou'd not have had a whit better success, for it is no more a specifick in these Distempers than the *China china*; and their only want of success is owing to a wrong indication of Venesection.

Autumno post pestem mensibus 7bri. & 8bri. An. 1666. Civitas Londinensis, fere universa, hoc morbo correpta videbatur, atq; singulis septimanis 300, 400, 500, plus minus fluxu & torminibus, caterisq; Dysenteriae excruciantis, vel Diarrhaeae colliquativae diris symptomatibus confecti, citius vel serius, die scil. 14, 17, 21. fatis cedebant, non autem absq; siti inexplebili, Aphthis albis vel nigris, pulsu celeri, deliriis, cæterisq; Febris Epidemicae indicis. P. 421.

Plurimi insuper posteaquam colliquatio & tormina & reliqua Dysenteriae symptomata, multo opiatorum & adstringentium usu supprimerentur nihilo secius languentes, & hectico calore quasi emarcescentes demum extinguiebantur. Alios (virulentiam per ductus salivales criticè expulsam) ope Aphtharum & salivationis immensa supervenientis (quod, in crisi Februm Συγχέων haud raro evenire solet) liberatos memini. 421. Per septennium ab Anno 1666. ad 1672. Dysenteria & Diarrhaea, torminosa ubiq; epidemicè grassabantur Londini, ortumq; suum duxerunt a Febre verâ Συγχέῃ, hocq; anno Morbilli succedentes, qui ad instar pestis mitioris, nulli sexui vel aetati parcentes, adeo mensibus autumnalibus Londini saeviebant, ut trecenti plus minus inde confecti, quaq; hebdomadâ ad orcum descenderent, atq; post ἀκμὴν hujusce Febris morbillosae pestilentialis, typum monstrabat Συγχέῃ, quæ corticis virtuti cedebat.

Atq; annis nuperis fateor, praesertim durante ἀκμὴν Constitutionis, mensibus scil. 7bri, & 8bri, è gradu veneni plus solito irritante, has ipsas Συγχέῃς aliquando cum vehementi aliquo Symptomate conjunctas, non tantum speciem

speciem Diarrhea & Dysenter. periodica, verum etiam cholera morbi, Vomitionis immanis, Rheumatismi versatilis, Pleuritidis, Colica, Ventriculi & Intestinorum, seu alterius alicujus morbi acutissimi induisse. Quin etiam has ipsas Zuxæis non tempestivè aut ritè curatas, à veneni incremento in malignas & funestas degenerasse, & nonnunquam à gradu veneni, &c. in primo insultu malignas extitisse, purpuratas, scil. Petechiales, vel morbillosa efflorescentia, vesiculis aqueis, per collum & pectus Sparsis, Parotidibus, Bubonibus, Anthracibus, ceterisque malignitatis indicis notatas.

It is no good Argument to say, because Physicians do recover many after this way of Practice, viz. every one has some; ergo, this being most general, it is the best. Dr. Sydenham where I mentioned, has discuss'd this with the notion of malignity so very well, that I shall say no more on that Head, only I shall give one instance; Dr. Willis in the Cure of the *London Dysenteria* 1671. made four Indications, and they were all of 'em wrong, for he made the *Fever* only a Symptom, and this made them all *entia rationis*. His *Diaphoreticks* answering the first, and *Alexipharmacks* the second, his *Opiata* the third, and his *Styptica* and *Adstringentia* the fourth.

Notwithstanding of this most preposterous Practice, there is no doubt he cur'd that Illustrious young Gentleman 25 years old, after a Months cruel Torture, more from the Physician than the Distemper; here was variety of Learned Pharmaceutical Remedies, and all of 'em ill indicated. Neither is there room to doubt of the second Cure, which with the other is all he mentions; neither do I doubt but he cur'd many more as well as they, in the seven years time of the Epidemical *Dysenteria* and *Diarrhea*, although we may
rea^m

reasonably conclude, that many more must miscarry than he cur'd this way, and that possibly gain'd him the name universally of an unsuccessful Practitioner at this time. Yet he was certainly the most Learned Physician of his contemporary Country-men; but trusting (as I take it) to his great skill in Chymistry, he thought to do wonders by that *medica materia*, and even to cure *Plethora's* with a far less expense of Blood than others. And as the Evacuations in these cases were smaller about that time, among all his Country-contemporaries, (Dr. Sydenham excepted) than at this day, so by his example many were banter'd out of their Senses, which I am apt to think might be the occasion that these *Dysenteria's*, *Diarrhæa's*, *Morbilli*, &c. were called, and indeed found to be Malignant and Pestilential, which might probably have been otherwise, if what we have endeavoured to prove had been duely adverted to. However there is no doubt this Learned Man acted according to his Conscience, and therefore he is to be excused. *Willis Pharmaceut. rational. part. primæ Cap. tertio de hypercatharsis remedio, &c.*

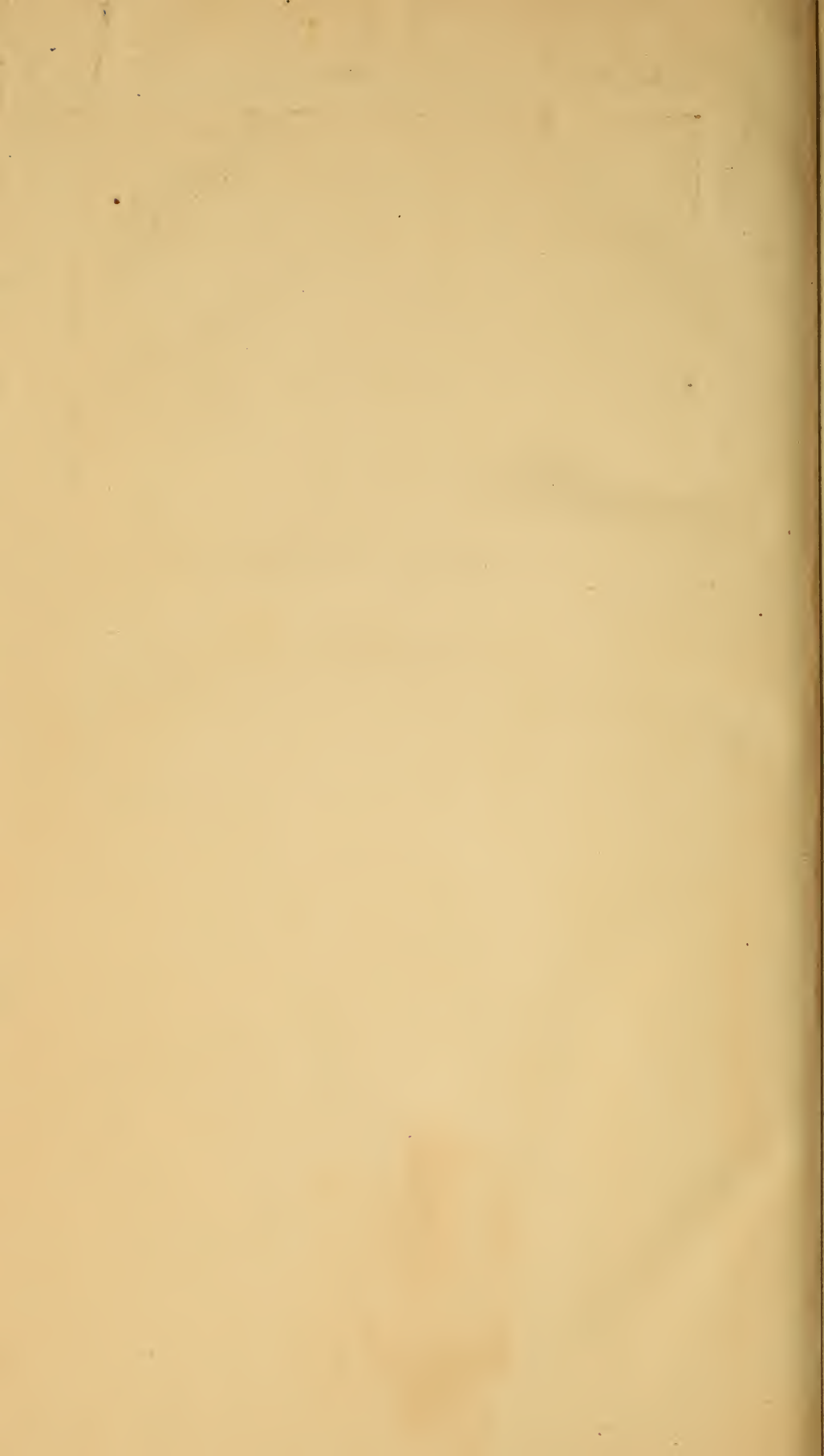
This has been my Practice six years, and well confirmed by sufficient experience in the hot Countries; and altho' there may be some difference for Blood-letting in the colder, where the Diet is likewise different, yet I am very apt to believe, that even in *Great Britain*, after we are satisfied that the *Fever* is a *Synochus primaria*, or any of the rest which I have described, and that it has proceeded with this Type four or five days after an Evacuation of $\frac{3}{4}$ xxx. of Blood, Vomit, &c. exhibited, and that we find the Patient grows delirious, or the Symptoms of *Stupor* or
Phre-

Phrenitis come on, and supposing the Patient an Adult of 30 years, of the Cardinal size 200 weight, strong, and healthful, just before this Distemper, I say, I have good reason to think that the Evacuation may be carried considerably higher, for the best security of the Patient's Life, and the reputation of the Physician, which may be determined by the former Rules and his own Judgment, both in this and all the other differing quantities demanded, according to the several Cardinal sizes, &c.

F I N I S.

E R R O R S.

PAge 6. line 36. read *rare*. l. 36. r. *demere*. p. 13. l. 32. r. *intolerable*. p. 15. l. 31. add *for all*. p. 25. l. 8. r. *πανθραξ*. l. 22. r. *interior*. p. 46. l. 14. r. *contagious*. l. 25. Cancel *whether continually by an equal Progression* or. p. 66. l. 24. r. *rapid*. p. 101. l. 10. c. *Parenthes*. p. 109. l. 15. r. *biceps*. p. 111. l. 8. r. *its*. p. 119. l. 2. r. *a point after Fevers*. l. 3d. and 5th. r. *Parenthes*. l. 19. add *being*. p. 126. l. 36. r. *where*. p. 127. l. 1. r. *Pleurisies*. l. 9. r. and then a *Parenthes*. l. 30. r. *minor*. p. 129. l. 13. r. *bleeding*. l. 15. r. *3 ii*. p. 131. l. 27. r. *made*. p. 145. l. 26. r. *I*. p. 147. l. 24. c. *and*. p. 152. l. 21. r. *quaq*. l. 27. r. *addatur*. p. 154. l. 2. r. *Συγχη*. p. 156. l. 23. c. *3 i*. r. *panac. Mercurial. Diagr.* & a. p. 157. l. last, c. *an*, and add, viz. *still some more*. p. 158. l. 13. r. *artus*. l. 16. r. *symptomatum*. l. 17. r. *after distantes* (.) p. 168. l. 12. r. *he might take*. l. 20. add *other Cardinal*. p. 173. l. 2. r. *Συγχη*. p. 174. l. 15. r. *ultima*. p. 175. l. 27. c. *if*, and add *I*. p. 176. l. 17. r. *διεσπρον*. p. 180. l. last, r. *taken*.



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